Coral-Based climate reconstructions from a massive *Porites* coral from Sabine Bank (Vanuatu)

by

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Abstract

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The University of Texas at Austin, 2009

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A monthly resolved, 133 year record of coral Sr/Ca variations has been developed from a massive *Porites* coral that was drilled in the shallow waters of a submerged carbonate platform (Sabine Bank, 15.9°S, 166.14°E) located ~50 km west of Espiritu Santo, Vanuatu. This truly open-ocean site, at which daily measurements of temperature and salinity are available for ~ 6 years, permits the reconstruction of local environmental variability using variations in coral skeletal geochemistry. Coral Sr/Ca-SST variations are well matched to variations in local SST, but bear little relation to changes in local SSS indicating little or no influence of salinity on coral Sr/Ca. The complete coral Sr/Ca-SST time series is characterized by abundant inter-annual variability, a strong trend towards warming (i.e., lower Sr/Ca values) from ~1980-2006. Interannual SSTA variations at

Sabine Bank correspond reasonably well to SSTA variations from the central Pacific cool tongue (Niño 3.4 region), indicating that coral Sr/Ca variations record ENSO variability in the region.

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I. Introduction

Climate in the southwest Pacific is influenced by migrations of the South Pacific Convergence Zone (SPCZ), which is the upward component of the west Pacific Walker circulation cell. The SPCZ, which migrates on annual and interannual time scales, is also an integral part of the Southern Oscillation, thus providing a direct link to the El Niño-Southern Oscillation (ENSO; Vincent, 1994). ENSO events are comprised of "warm" phases (El Niño) and "cool" phases (La Niña), based the location of anomalously warm waters in the central Pacific Ocean. During "normal" conditions in the central equatorial Pacific, Walker circulation results in strong easterly trade winds, which move warm air and water to the west across the Pacific. Cool and dry conditions are typically observed in the central Pacific, whereas warm and wet conditions are experienced in the southwest Pacific. ENSO "warm" phase events occur when the strong easterly trade winds weaken, causing the SPCZ to move northeast and anomalously warm air and water in the west-central Pacific Ocean to shift towards the east Pacific [Timmermann et al., 1999]. ENSO "cool" phases represent just the opposite; anomalously cool SST are experienced in the east Pacific and warmer waters are found further west than usual. The spatial manifestation of these ENSO dynamics is a "boomerang-shaped" pattern of SST anomalies, whereby the central Pacific region is anti-correlated to the west Pacific (Figure 1).

Vanuatu, an island republic consisting of 83 islands in the southwest Pacific extending from north to south ~ 1,300 km from southeast of the Solomon Islands to near New Caledonia, has been the location of paleoclimate studies using modern and fossil corals (Beck et al., 1992, 1997; Corrège et al., 2000, 2006; Kilbourne et al., 2004a)

because ENSO variations strongly influence the climate of this region via changes in SST, rainfall and SSS. The rainfall and salinity variations (less rain, El Niño; more rain, La Niña) result from SPCZ migrations. Coral-based climate studies from Vanuatu have largely originated from the waters surrounding, Espiritu Santo (**Figure 1, inset map**). Corals are useful for surface water environmental reconstructions, as they are long-lived organisms that record environmental variations in their skeletal geochemistry while they grow. Corals are widely distributed throughout the tropics, produce annual density band couplets as they grow allowing construction of absolute chronologies, and their aragonitic skeletons are amenable to geochemical analysis. Variations in coral Sr/Ca and oxygen isotope ratios historically have been used to monitor changes in SST and sea surface salinity (SSS). Empirical studies have determined that Sr/Ca ratios have a negative relationship with SST [Smith et al., 1979, Beck et al., 1992]. A recent study done used temperature regulated aquaria to show that Sr/Ca variations in *Porites* corals are strongly controlled by SST variations and are not influenced by growth rate variations [Inoue et al, 2007], although other others have reached different conclusions (e.g., de Villiers et al., 1994).

The focus of this study is to use variations in the skeletal geochemistry (Sr/Ca) to reconstruct a proxy record of SST variations in a *Porites lutea* coral from Sabine Bank (15.9°S, 166.14°E), a submerged carbonate platform located ~ 50 km west of Espiritu Santo, Vanuatu (**Figure 1, inset map**). Sabine Bank (SB) is an ideal location for climate reconstructions using coral skeletal geochemistry because a thermosalinograph has been recording daily SST and SSS values at this site since 1999 (**Figure 2**; Maes, unpublished data). SB also is a prime target for future drilling of submerged fossil corals in a manner

similar to that demonstrated at Bougainville Guyot at ODP Site 831 (Kilbourne et al., 2004b).

Herein we report coral Sr/Ca time series (2006-1873) results from SB, which provides a unique opportunity to study ocean-climate variations at a purely open ocean site, away from the influence of land and in a region that is highly sensitive to ENSO variations.

II. Methods

A core from a *Porites lutea* coral head growing in ~8m of water at SB was drilled in October 2006. The ~2.5 m core was split longitudinally, cut into a 5 mm thick slab and x-radiographed using standard settings (Kilbourne et al., 2004a) at the University of Texas at Austin, Institute for Geophysics. In total, 6 slabs were cut, hereafter referred to at 06SB-A-1(a-f). X-radiograph images reveal consistent annual density band couplets throughout the length of the core, which allowed the major axes of coral growth to be identified and used as a guide for selection of appropriate sampling paths (Supplemental Figure 1). Most adjacent paths overlapped by ~1 year in order to prevent time gaps caused by sampling methods.

To collect the samples, the slabs were mounted to a computer-guided triaxial sampling platform using a 1.4 mm dental drill bit. The width and depth of transects were 0.83mm by 0.09 mm, respectively. The overall objective was to mill sample powders at 1mm intervals to generate a monthly resolved record (~12 samples per year). However, slabs 06SB-A-1a-d were sampled at ~fortnightly resolution (~24 samples per year). Coral powders from adjacent samples in these fortnightly sampled sections were physically mixed to produce a monthly resolved sequence, consistent with the sampling resolution of the rest of the core (Supplemental Figure 2).

Sr/Ca determinations were made on coral powder samples using a Perkin-Elmer 4300 Dual View Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) in the Stable Isotope Laboratory of the Jackson School of Geosciences at The University of Texas at Austin. Powdered coral samples (100-300 μg) were dissolved in 2% HNO_3 to dilute the Ca concentration to ~20 ppm. Instrumental drift corrections were made

according to the bracketing method of Schrag [1999]. The Sr/Ca of a gravimetrically prepared standard solution (IGS) was measured between each dissolved coral sample in order to correct sample Sr/Ca for instrumental drift and noise [Schrag, 1999]. The average corrected precision of the IGS standard was ±0.012 mmol/mol (n=3168; 0.12% relative standard deviation (RSD)). A second standard consisting of homogenized powder from a *Porites lutea* coral dissolved in 2% HNO3 was analyzed for Sr/Ca every sixth sample. The average precision of this second standard was ±0.016 mmol/mol (n=573; 0.18% RSD).

An instrumental SST record was used to facilitate the conversion of coral Sr/Ca variations in depth to variations in time. This record, hereafter referred to as H* (Supplemental Figure 3), was constructed based on the relationship (Supplemental Figure 4) between the local SST record and one extracted from the 1˚ by 1˚ grid box appropriate for SB from a global gridded SST database (HADISST 1.1; Rayner et al., 2003). The H* SST time series was then used to match coral Sr/Ca minima (maxima) to SST maxima (minima) for each annual cycle using AnalySeries software [Paillard et al., 1996]. Additional tie points were used on parts of the record to better match mid-spring and mid-fall points between the SST record and coral Sr/Ca.

III. Results

Counting of density band couplets, which coincide with cycles in coral Sr/Ca (Supplemental Figure 5), indicate that the Sabine Bank coral Sr/Ca record is 133 years long, extending from 1873-2006 (Supplemental Figure 6). Conversion of coral Sr/Ca variations to proxy SST variations is greatly facilitated by the having a local SST with which to calibrate. Ordinary least squares regression between coral Sr/Ca variations and SST observations at Sabine Bank (Supplemental Figure 7) yields the following equations:

(1) Sr/Ca (mmol/mol) = 10.18 – 0.049(SST, ˚C); r=-0.89

(2) Sr/Ca-SST (˚C) = [Sr/Ca (mmol/mol)-10.18]/ – 0.049

This slope value of the Sr/Ca-SST relation is within error of the majority of previously determined relations for *Porites* corals [Gagan et al., 2000].

Coral Sr/Ca variations were converted to Sr/Ca-SST variations using equation 2. Coral Sr/Ca-SST variations are well matched to variations in local SST over their ~6 year period of overlap (r=-0.89), but bear little relation to changes in local SSS (**Figure 2c**) indicating little or no influence of salinity on coral Sr/Ca. The monthly resolved, 133 year long coral Sr/Ca-SST time series (**Figure 3**) is characterized by abundant inter-annual variability, and a strong trend towards warming (i.e. lower Sr/Ca values) from ~1980-2006.

IV. Discussion

A. SST Variations at Vanuatu

The SB coral Sr/Ca-SST time series is well matched (r=-0.76) to the record of observed SST variations (H*, (Supplemental Figure 3). ENSO-filtered versions of these two records are also reasonably well matched (**Figure** 4, r=-0.51). Comparison between coral Sr/Ca-SST and H* records in anomaly space yielded a much lower correlation (r=-0.21). The low correlation between proxy and observed SSTA variations may reflect: 1) real differences between a single point in the shallow ocean (coral location) and the 12,321 km^2 of surface ocean represented by the 1^o x 1^o grid, 2) flaws in the "instrumental" SST record (H*) due to the paucity of observations in the pre-1950 interval, and 3) flaws in the coral Sr/Ca temperature proxy.

The SB coral Sr/Ca-SST time series can also be compared to coral Sr/Ca and $\delta^{18}O$ time series (1928-1992) from Malo Channel (MC), Vanuatu [Kilbourne et al., 2004a]. Malo Channel (MC) is located between Malo Island and Espiritu Santo Island, Vanuatu (15.7 °S, 167.2 °E). The expected correlation coefficient between MC Sr/Ca and Sabine Bank Sr/Ca is between 0.9 and 1.0 (**Figure** 1), but the actual correlation coefficient is much lower (r=0.56; n=768). Discrepancies between the two records (Supplemental Figure 8) could be a result of local influences on the MC coral. As the name implies, the MC coral head is located in a channel between two islands, ~ 3 km offshore on either side. SST variations likely are influenced by swift currents in the channel and by large volumes of freshwater runoff from the surrounding islands after rainstorm events. Because Sabine Bank is located ~50 km from the shore, it does not experience these effects.

B. The Record of ENSO Variability at SB

The SB coral Sr/Ca-SST time series is characterized by abundant interannual variability (**Figure 3**), but the question remains whether these variations are indeed related to ENSO forcing in the region. The Niño 3.4 Index is a widely recognized instrumental record of ENSO variability [Trenberth, 1997]. This index is a 5-month running mean SSTA extracted from the Niño 3.4 region (**Figure** 1; 5°N-5°S and 120°-170°W) using a base period climatology of 1950-1979. If SSTA exceeds +0.4^{o}C for at least 6 months the event is defined as an El Niño [Trenberth, 1997].

An SSTA record developed from the H* time series at Sabine Bank, created in a manner analogous to the Niño 3.4 Index, yields a negative correlation (r=-0.43) when compared to the Niño 3.4 Index (Supplemental Figure 9), which is consistent with the relationship depicted in **Figure** 1. The coral Sr/Ca record, when treated in the same manner as used to create the Niño 3.4 index, yields a positive correlation (r=0.34) when compared to the Niño 3.4 time series (Supplemental Figure 10, the change in sign reflects the negative relation between coral Sr/Ca and SST). The amplitude of the signal at Sabine Bank is ~half that observed in the Niño 3.4 region, for both instrumental and proxy SST records.

ENSO events do have a diagnostic canonical pattern; however not all ENSO events are the same magnitude nor do they affect the same location equally in all events. Typically, ENSO events are strongest in the Niño 3.4 region; however, as Cole et al. [1993] demonstrated, El Niño events can be observed in locations to the west of the Niño 3.4 Index, and not recognized within the Niño 3.4 region itself. The opposite reaction can

be seen as well. Large El Niño events can be recognized within the Niño 3.4 region, but not seen at the same intensity, or at all, at other locations in the Pacific.

A comparison of 3 ENSO filtered records (H*, Sabine Bank Sr/Ca, Niño 3.4 index; **Figure** 4) was created to investigate how well variations in the coral Sr/Ca record at Sabine Bank record ENSO variations. To be conservative the threshold for identifying an El Niño event in the Niño 3.4 index was doubled from +0.4˚C, as defined by Trenberth (1997), to +0.8˚C. Using this criterion, five of the eleven major El Niño events seen within the Niño 3.4 region are also present in the Sabine Bank Sr/Ca record. Three of the eleven events are off by a couple of months, and three of the eleven events seen in the Niño 3.4 region are not seen at all in the Sabine Bank Sr/Ca record (**Figure** 4b). Similarly, eight of the eleven major El Niño events seen within the Niño 3.4 region are also seen in the H* record, two events are off by a couple of months, and one event is not seen at all in the H* record (**Figure** 4a). Conversely, two major El Niño events are present in the Sabine Bank Sr/Ca record with their peak in the years 1906 and 1885, but are not seen in the Niño 3.4 Index. Their absence in the Niño 3.4 Index could be a result of the strength and locality effects mentioned above, or possibly due to the lack of SST data collected at this time (e.g., Supplemental Figure 3). In the years 1906 and 1885, there were zero SST observations made in the 1° by 1° grid box centered at Vanuatu.

V. Conclusions

A monthly resolved, ~133 year record (2006-1873) of Sr/Ca variability was generated from a *Porites* coral from Sabine Bank, Vanuatu (15.9°S, 166.14°N), a submerged bank ~50 km southeast from Espiritu Santo, Vanuatu. This open ocean site also has a short (2007-1999) in-situ record of SST and SSS variations, which makes it an ideal location at which to generate a proxy climate record. Based on analysis of the coral and climate time series, the following conclusions can be made:

1. both the coral Sr/Ca and local SST records exhibit a clear annual cycle of variations, with no trend in the data over the ~6 years of overlap. Coral Sr/Ca is well correlated with instrumental SST data in terms of monthly variations (r= -0.89).

2. the local SSS record does not exhibit a clear annual cycle of variations although it does contain a trend towards saltier conditions from 1999-2007. A trend is not observed in the coeval portion of the coral Sr/Ca record, indicating that SSS changes have no impact on coral Sr/Ca values at this site.

3. the complete monthly resolved, 133 year Sabine Bank coral Sr/Ca time series is characterized by abundant inter-annual variability and a strong trend towards lower values (i.e. warming) from ~1980-2006.

4. the coral Sr/Ca-SSTA record at Sabine Bank, created in a manner analogous to the Niño 3.4 Index, yields a negative correlation (r=-0.43) suggesting that interannual SST variations in Vanuatu are a response to ENSO forcing.

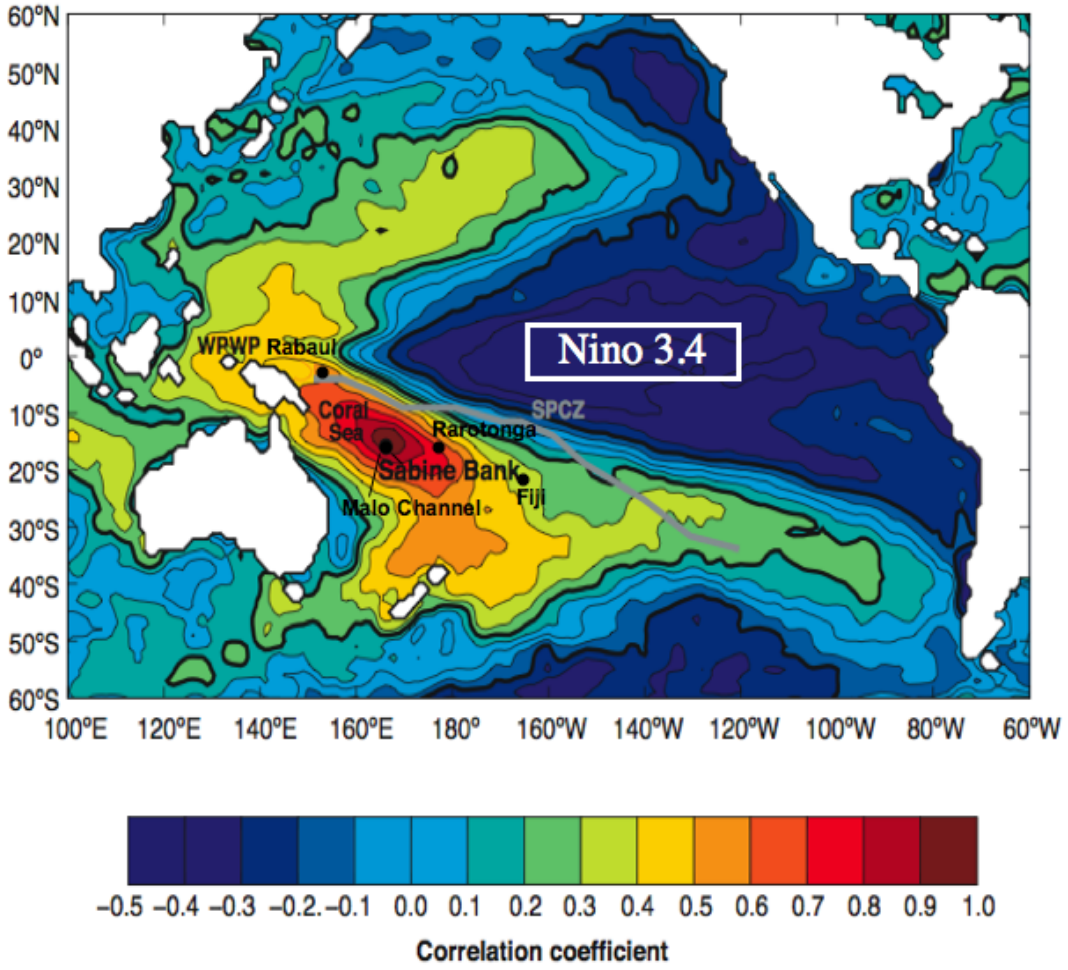


Figure 1: Correlation map between SST anomalies at Sabine Bank with those from other regions of the global ocean. Correlation computed between monthly SST anomalies from a 1º grid centered Sabine Bank (15.5ºS, 166.5°E) and 1° gridded SST anomalies for the rest of the ocean using the Optimum Interpolation Sea Surface Temperature Analysis v2 (OISST) data product [*Reynolds et al.*, 2002] for the period November 1981 to October 2008. Correlations >0.2 or <–0.2 are significant at the 95% confidence level (heavy black line); degrees of freedom adjusted for autocorrelation. The gray line marks the axis of maxima summer precipitation (November to April) associated with the SPCZ; data from NOAA Climate Prediction Center Merged Analysis of Precipitation (CMAP) [*Xie and Arkin*, 1997] for the period from 1981 to 2006. Inset map modified from Taylor et al., 1994.

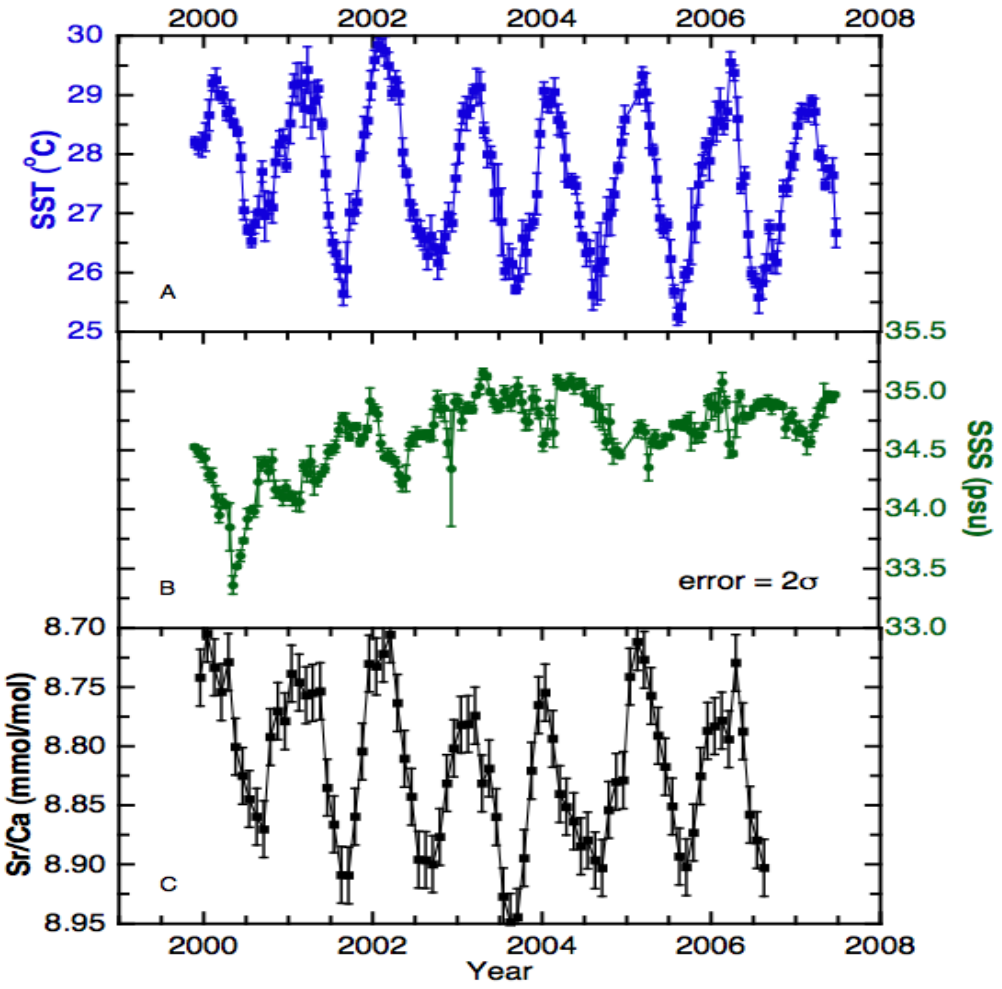


Figure 2: In-situ SST and SSS data measured at Sabine Bank [Maes, unpublished data, 2008]. (a) SST variations have a well defined annual cycle with an amplitude of ~3-4°C, showing no trend through time; (b) SSS variations do not exhibit a well defined annual cycle, but do show a pronounced decrease in salinity in early 2000 with a trend to more saline conditions with time, Error bars (2σ) are plotted on both panels. The data collection period is from 1999-2008 [Maes, unpublished data, 2008].

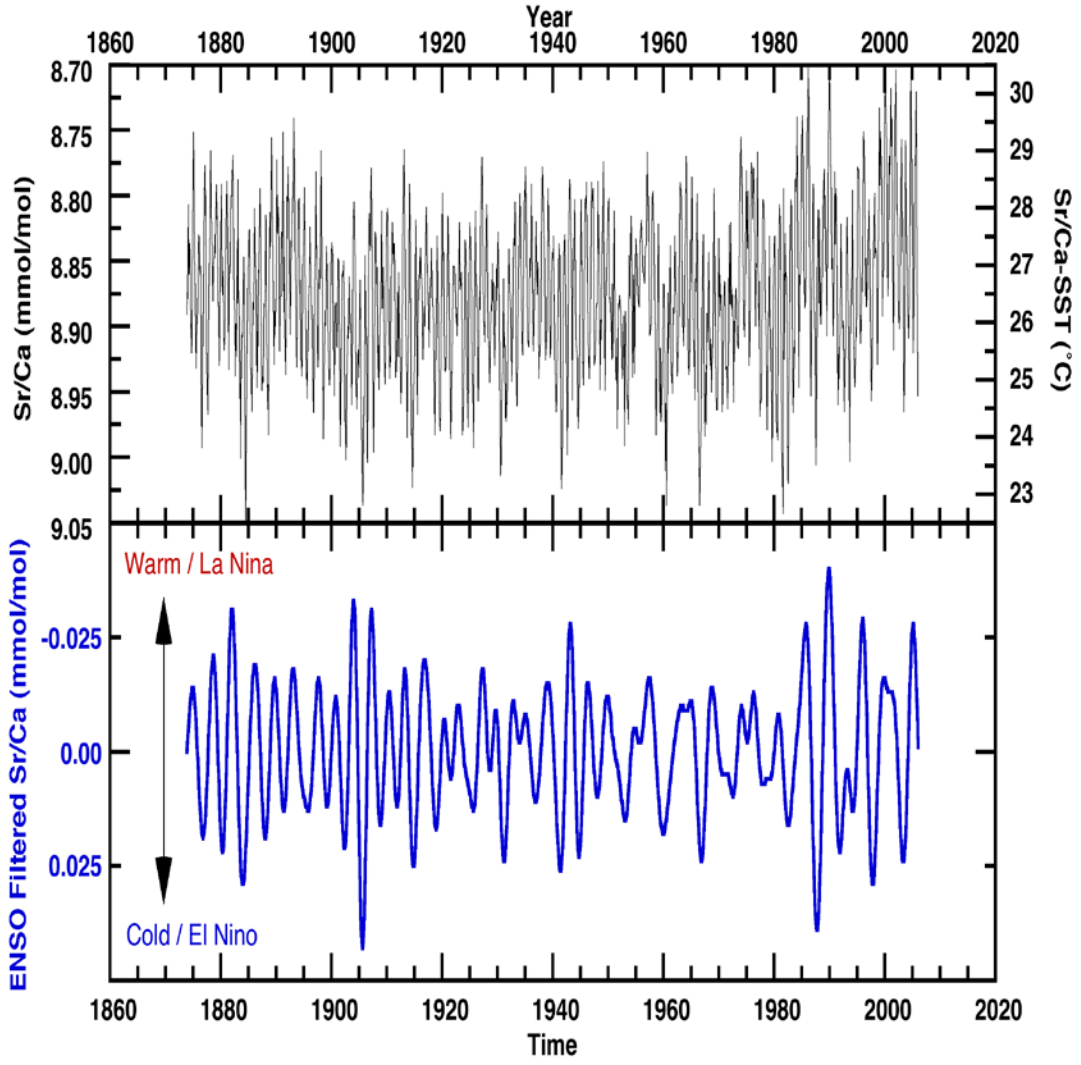


Figure 3: The monthly resolved, 133 year long coral Sr/Ca and Sr/Ca-SST time series (top panel) at Sabine Bank, Vanuatu is characterized by abundant inter-annual variability (blue line, bottom panel). The curve in the bottom panel was created by applying a Gaussian bandpass filter (central frequency, 0.2750; bandwidth, ± 0.1275) to the coral Sr/Ca time series, which serves to highlight ENSO variations. Note also the strong trend towards warming (i.e. lower Sr/Ca values) from ~1980-2006 in the upper panel.

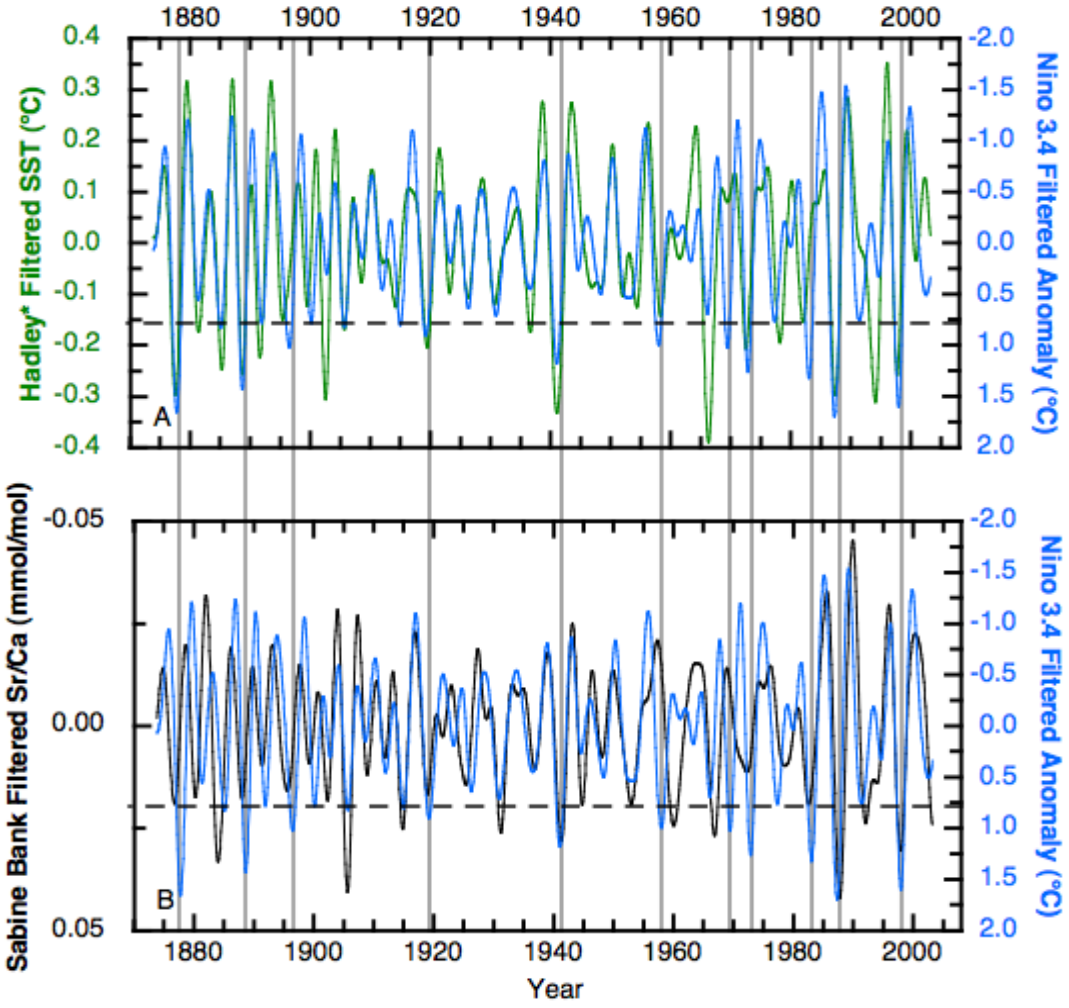
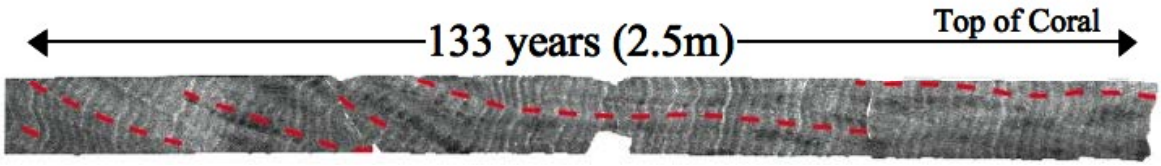
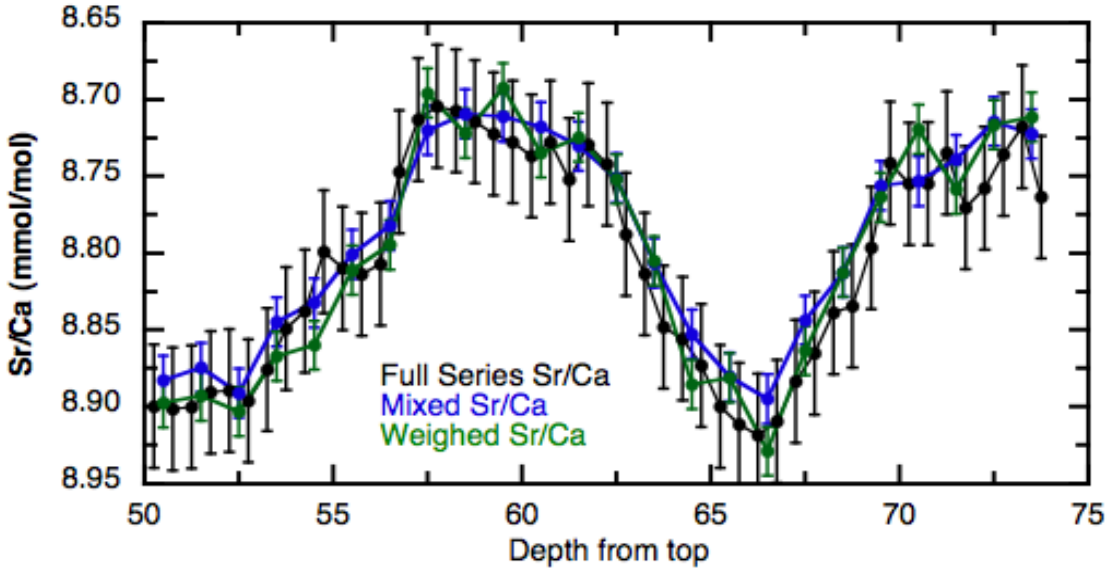


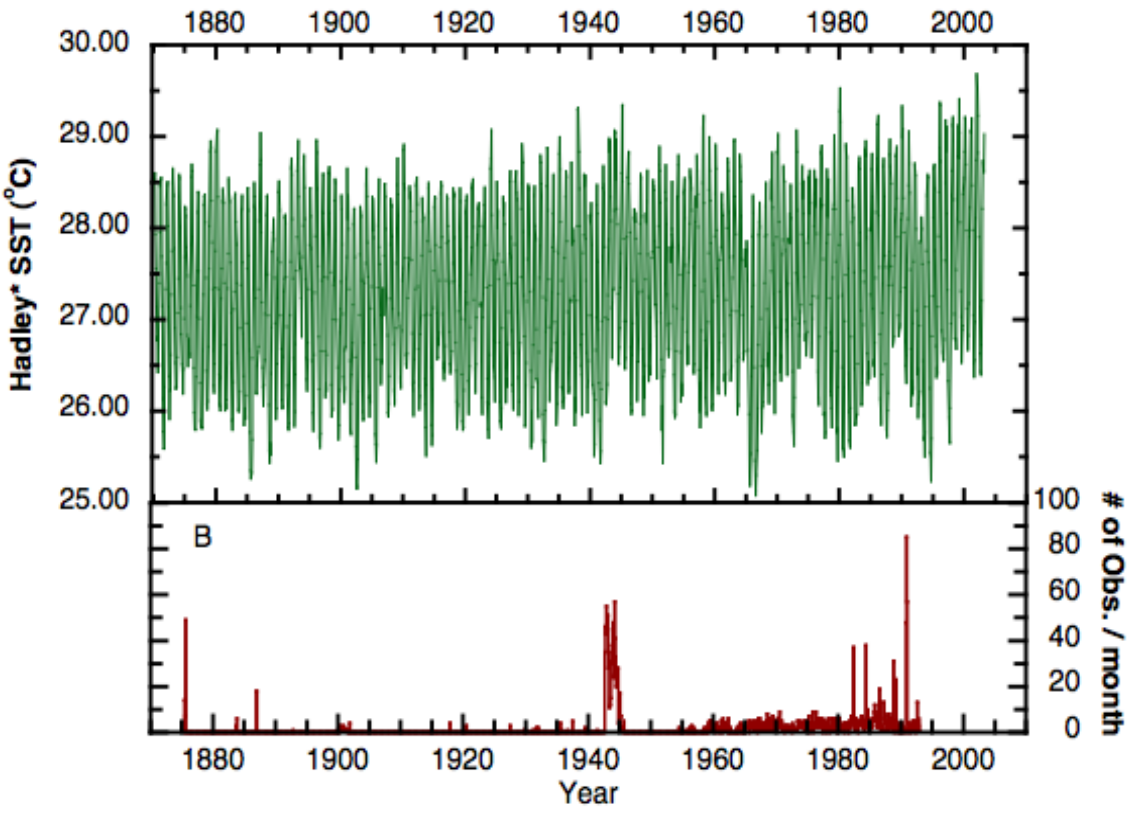
Figure 4: Comparison of ENSO filtered records of Sabine Bank SST (a, green), Sabine Bank coral Sr/Ca (b, black) and Niño 3.4 Index (c, blue). The vertical gray bars indicate major El Niño events, as defined by those excursions in the Niño 3.4 record that exceed 0.8°C. This threshold is twice that of the one defined by Trenberth [1997]. The Sabine Bank SST record captures eight of the eleven major El Niño events as defined in the Niño 3.4 Index; whereas the coral Sr/Ca record captures five of the eleven.



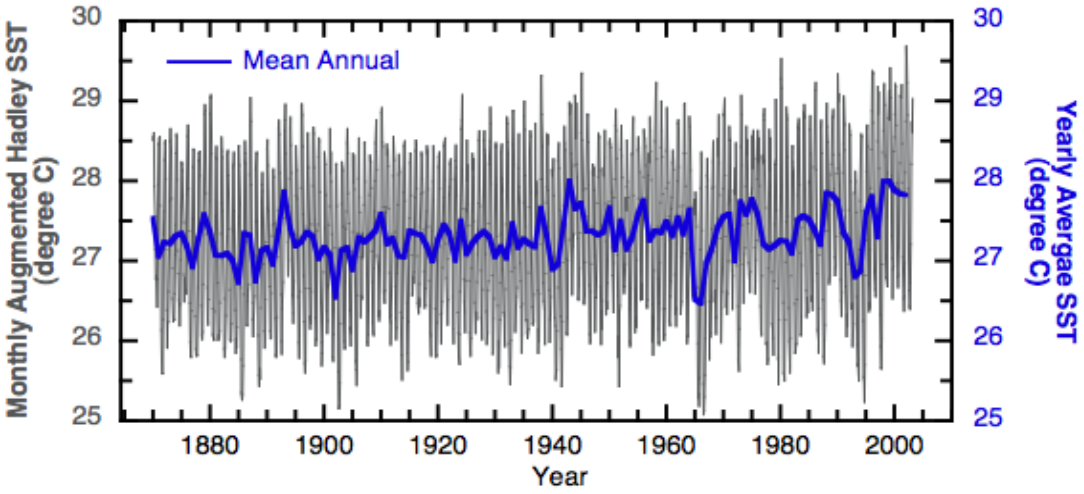
Supplemental Figure 1: X-radiograph of slabs of the Sabine Bank coral core. Annual density bands and the axis of coral growth are visible throughout the length of the core, representing 133 years of growth. Drilling paths (red dashed line) were chosen along the axes of maximum coral growth.



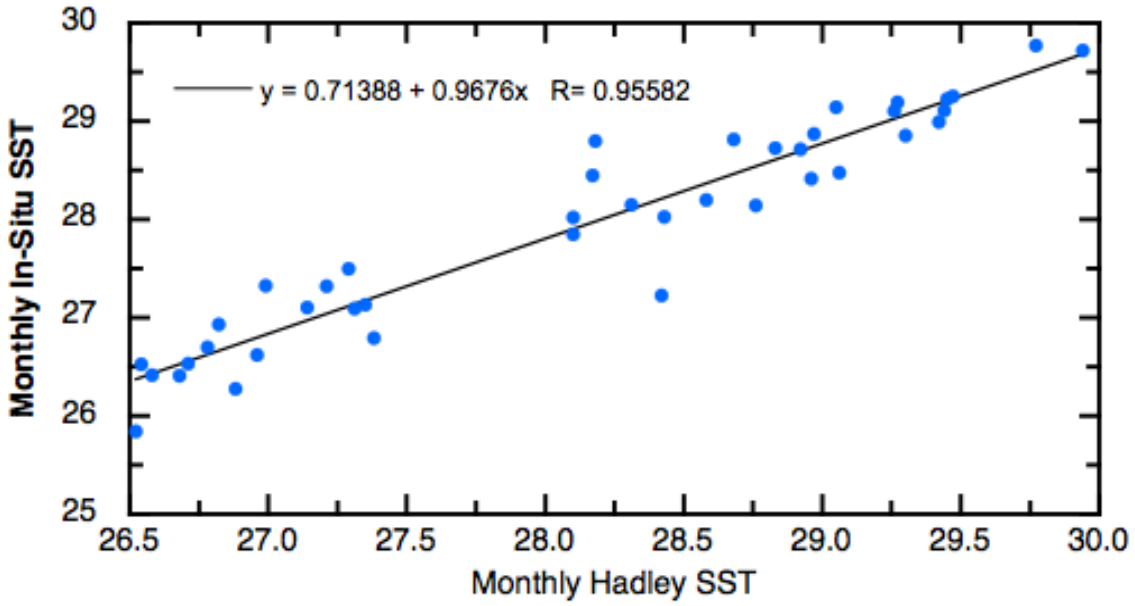
Supplemental Figure 2: Assessment of the effect of combining coral powder samples on the measured coral Sr/Ca. The black time series is the original time series that was sampled every 0.5 mm which equates to ~24 samples/year. The objective was to sample the entire core at ~12 samples/year, so samples from this oversampled interval needed to be combined in a way to meet this objective. Coral powder samples were combined two different ways to convert from 24 to 12 samples/year. In method 1 (green line) 100 µg of sample A and 100 µg of sample B were combined in a vial to be thoroughly mixed. In method 2 (blue line), the remaining powder from samples A and B were combined into a third vial to be thoroughly mixed without having been weighed. Sr/Ca variability for both methods falls within the analytical error (2σ) of the measurement.



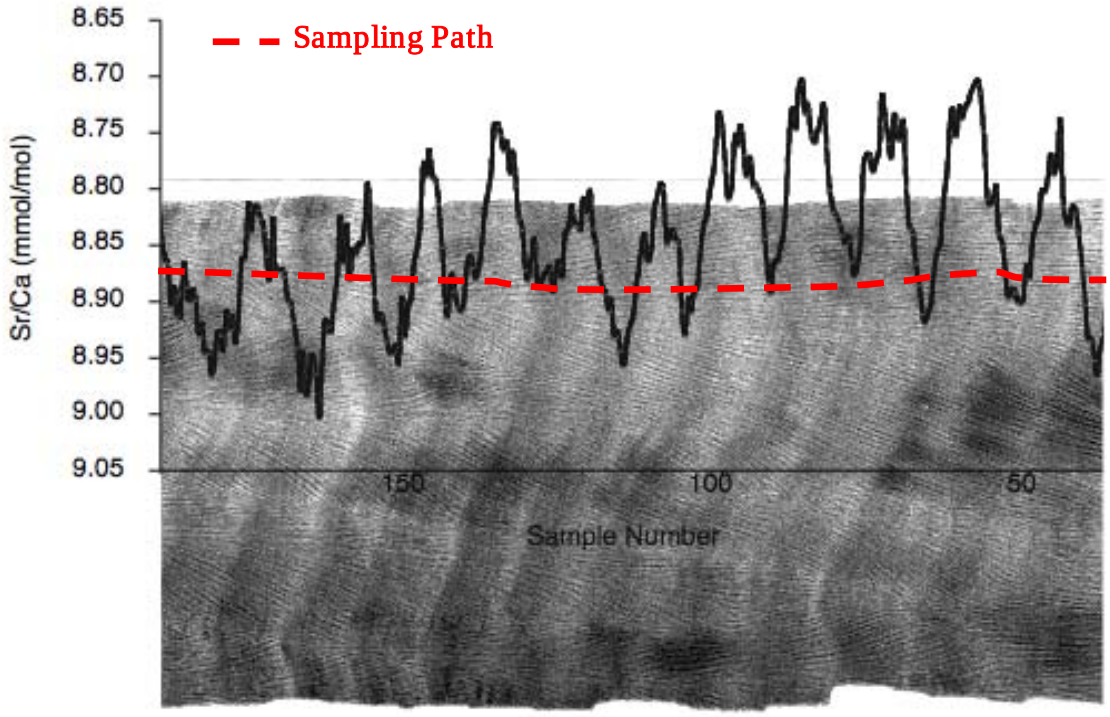
Supplemental Figure 3: (a) Monthly SST variations at Sabine Bank, as extracted from the 1° x 1° gridded average HADISST data project [Rayner et al., 2003]. (b) Number of observations made in the 1° x 1°grid box over time in the HADISST product. Note that prior to 1950, the number of SST measurements in the grid box markedly decreases and there are times when no observations are available [Slutz et al, 1985]. Various interpolation techniques have been used to create this >100 year, monthly resolved SST time series.



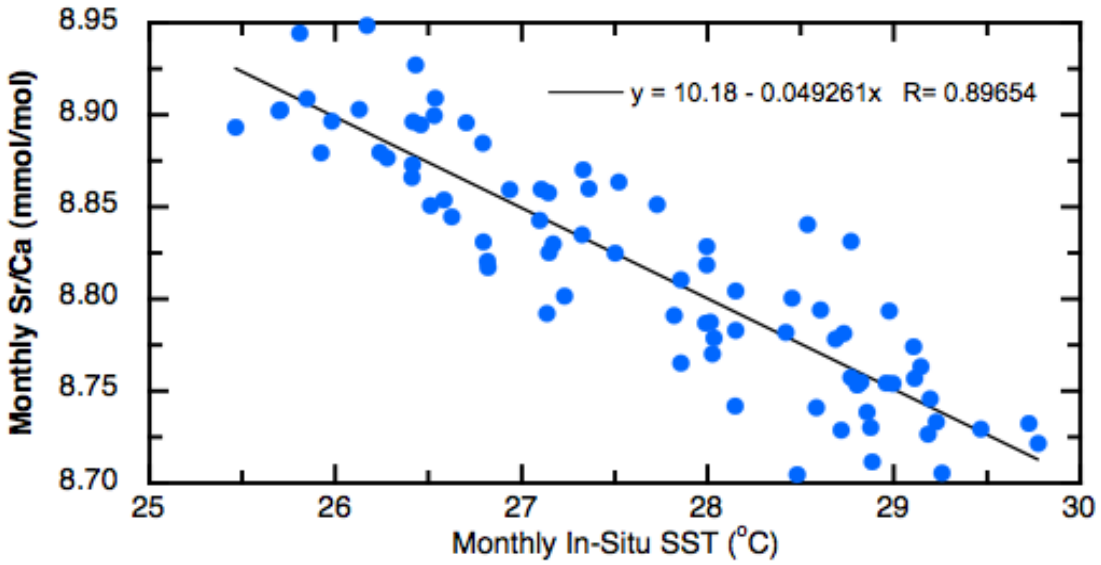
Time series of SST variations at Sabine Bank (gray line) as calculated by augmenting the original HADISST SST record based on the relationship between the HADISST1 SST data and in-situ SST data from 1999-2007 [Rayner et al., 2003; unpublished data, 2008]. The blue line represents the mean annual SST time series, which serves to highlight long-term changes in SST.



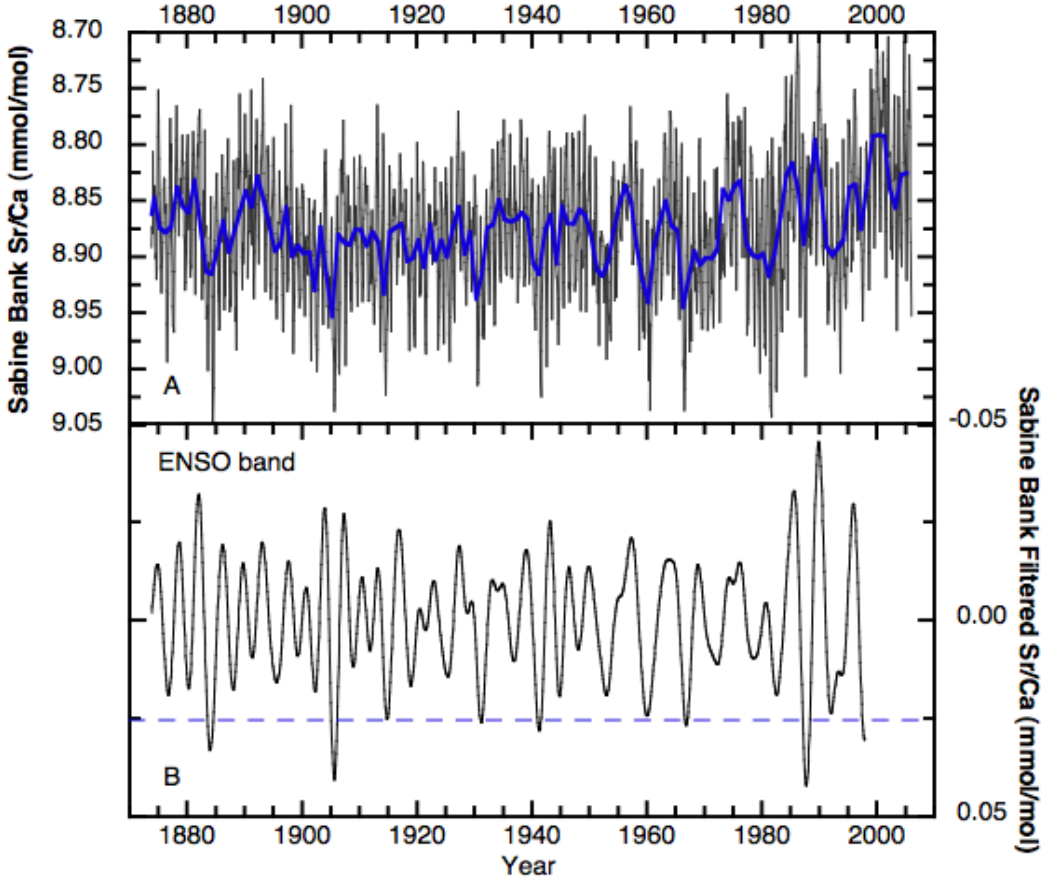
Supplemental Figure 4: The relationship between in-situ SST data and HADISST1 SST data for the years 1999-2007 [Maes, unpublished data, 2008; Rayner et al., 2003]. The best- fit regression line (black line) gives the numerical relationship between the two data sets with the equation y=0.71388 + 0.9676x. The augmented Hadley SST data was created based on this numerical relationship.



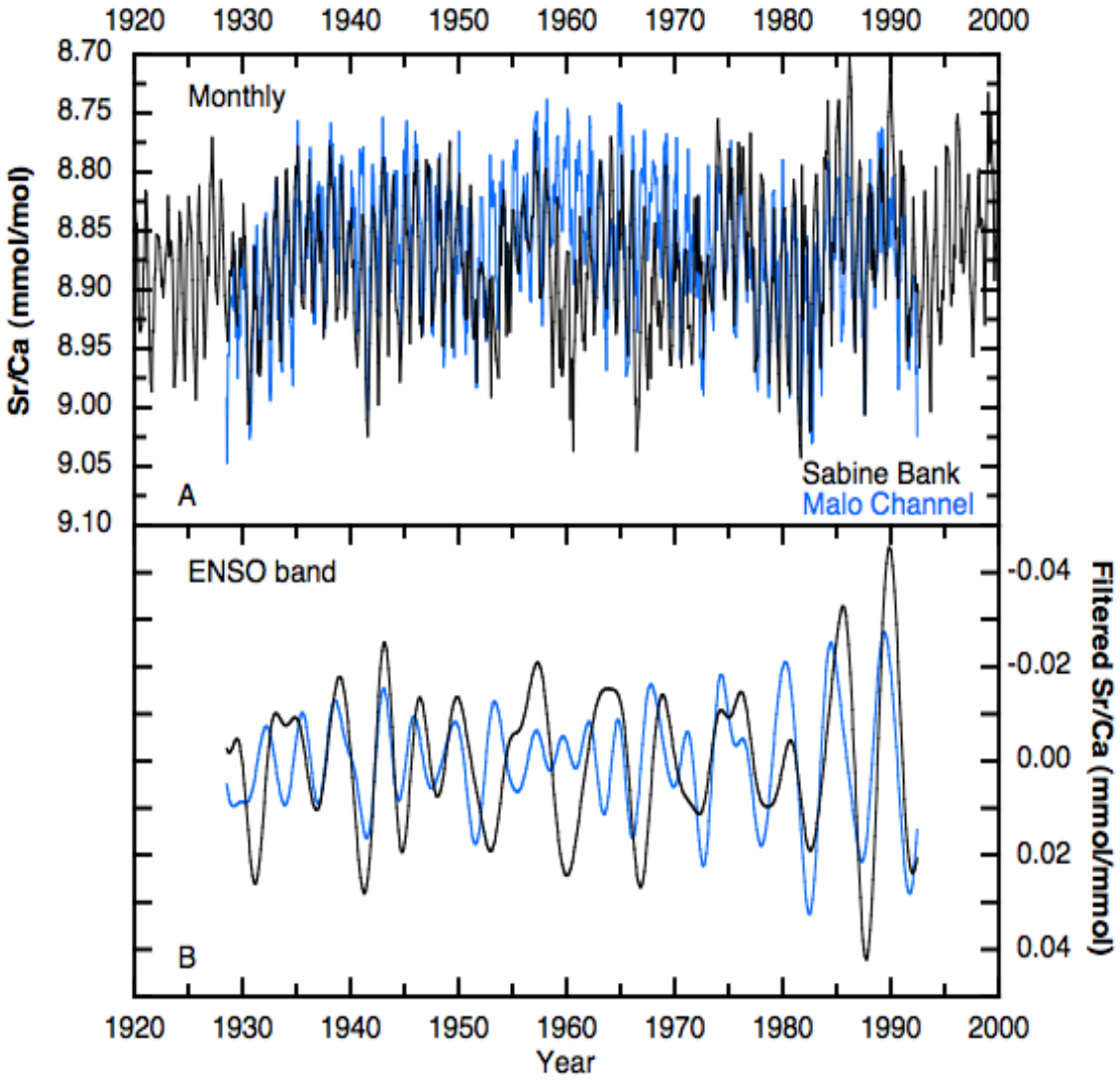
Supplemental Figure 5: Overlay of the Sabine Bank Sr/Ca record on the coral X-radiograph from which it came (red dashed line). Note that cyclicity in the Sr/Ca variations corresponds to annual banding within the coral, indicating that the variations are annual.



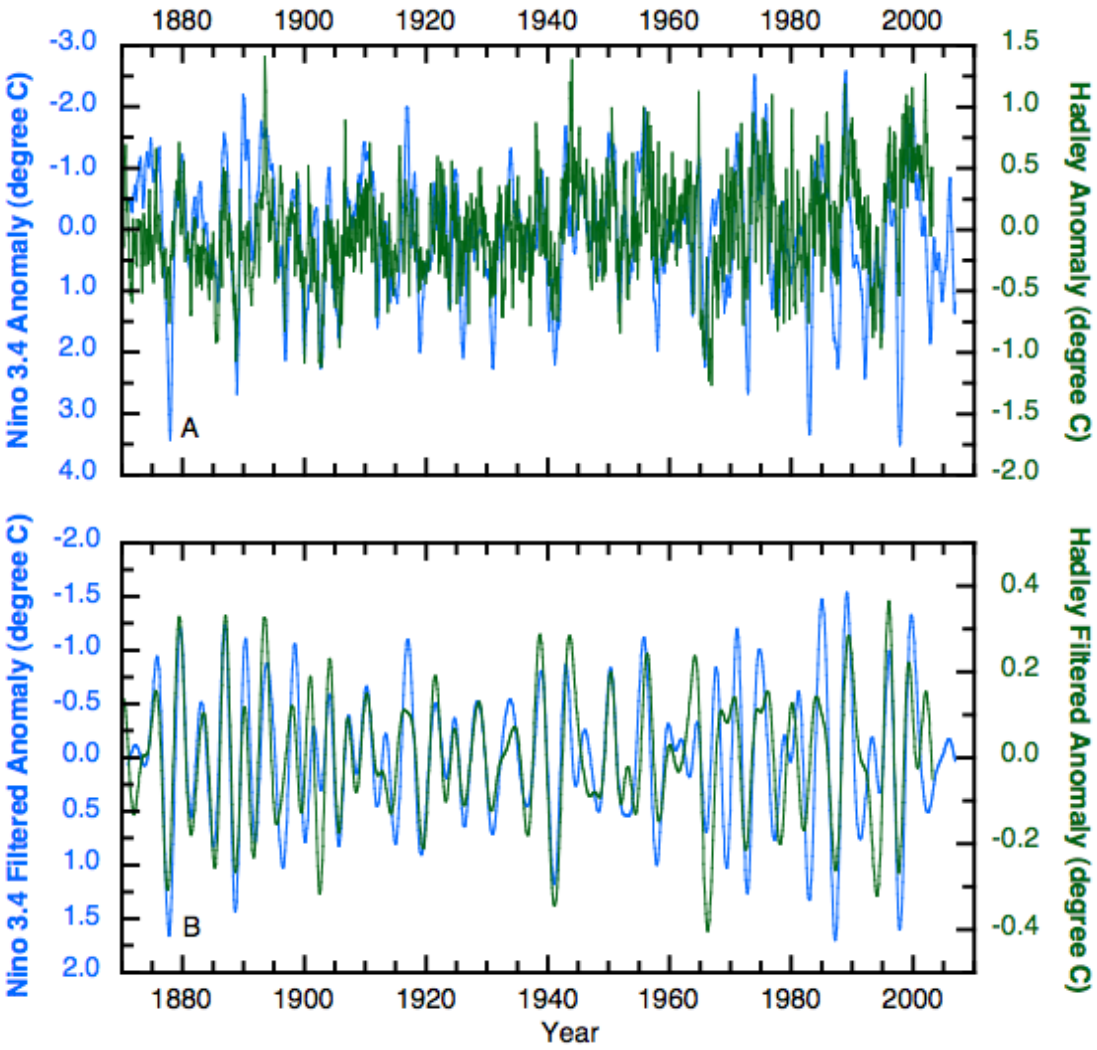
Supplemental Figure 6: Ordinary least square regression of monthly in-situ SST data and monthly coral Sr/Ca data from Sabine Bank for the years 1999-2007 [Maes, unpublished data, 2008]. The best-fit line (black line) gives the numerical relationship between the two data sets with the equation y=10.18 - 0.049x, which is used to convert Sr/Ca to SST.



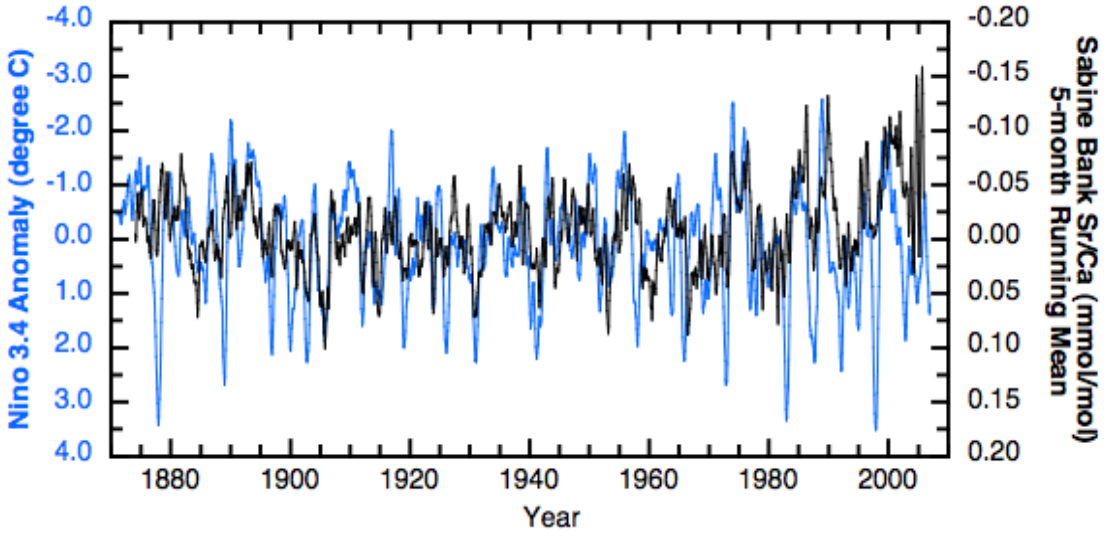
Supplemental Figure 7: (a) Monthly (thin black line) and mean annual (thick blue line) variations in Sr/Ca from the Sabine Bank coral; (b) A filtered version of the monthly Sr/Ca variations. A Gaussian filter with a frequency of 0.2750 and bandwidth of 0.1275 was applied to capture the interannual variability (2.5-7 year window) associated with ENSO. The dashed line represents the threshold for El Niño events as defined by Trenberth [1997]. Eight El Niño events are present in the Sabine Bank Sr/Ca record.



Supplemental Figure 8: Comparison of monthly (a) and ENSO filtered (b) coral Sr/Ca variations at Sabine Bank (black) and Malo Channel, Vanuatu (blue; Kilbourne et al., 2004) located between Espiritu Santo Island and Malo Island, Vanuatu (15.7 °S, 167.2 °E). The two filtered records have a correlation coefficient of 0.56.



Supplemental Figure 9: Comparison of SST variations at Sabine Bank with (green; augmented Hadley; see text for explanation) with the Niño 3.4 index (blue). (a) Monthly anomalies of both data sets have a correlation coefficient of -0.43; (b) ENSO filtered anomalies of both data sets have a correlation coefficient of -0.71. The amplitude of the Niño 3.4 SST signal is twice that of the SST signal at Sabine Bank. Similar El Niño events are present in both records.



Supplemental Figure 10: Niño 3.4 anomalies (base period 1950-1979) are based on a 5-month running mean of SST extracted from the Niño 3.4 grid box [blue; Trenberth, 1997]. The same running mean was applied to the Sabine Bank Sr/Ca data (black), and the data sets were compared, giving a correlation coefficient of 0.34. The positive correlation reflects the inverse relation between coral Sr/Ca and SST.

Appendix I

Sabine Bank coral X-radiography

Appendix II

Local SST and SSS Data

Nov 1999 - Feb 2000

SST	SSS	Y / M / D	SST	SSS	Y / M / D
28.30	34.50	19991118	28.69	34.35	19991231
28.26	34.52	19991119	28.38	34.45	20000101
28.05	34.55	19991120	28.48	34.42	20000102
28.02	34.56	19991121	28.63	34.26	20000103
28.20	34.56	19991122	28.58	34.35	20000104
28.27	34.53	19991123	28.56	34.38	20000105
28.18	34.53	19991124	28.71	34.35	20000106
28.29	34.51	19991125	28.19	34.47	20000107
28.25	34.52	19991126	28.05	34.48	20000108
28.26	34.53	19991127	28.20	34.42	20000109
28.22	34.52	19991128	28.02	34.48	20000110
28.17	34.52	19991129	28.19	34.44	20000111
28.15	34.51	19991130	28.07	34.51	20000112
27.96	34.53	19991201	28.08	34.55	20000113
27.93	34.54	19991202	28.09	34.54	20000114
27.95	34.54	19991203	28.14	34.39	20000115
28.08	34.54	19991204	28.17	34.43	20000116
28.06	34.53	19991205	28.60	34.22	20000117
28.11	34.51	19991206	28.52	34.27	20000118
28.15	34.50	19991207	28.58	34.32	20000119
28.13	34.48	19991208	28.56	34.31	20000120
28.06	34.47	19991209	28.50	34.28	20000121
28.11	34.47	19991210	28.42	34.24	20000122
28.23	34.46	19991211	28.42	34.33	20000123
28.25	34.46	19991212	28.51	34.31	20000124
28.31	34.41	19991213	28.77	34.28	20000125
28.29	34.43	19991214	28.75	34.28	20000126
28.31	34.45	19991215	28.67	34.32	20000127
28.26	34.43	19991216	28.83	34.31	20000128
28.10	34.45	19991217	28.92	34.30	20000129
28.18	34.42	19991218	29.05	34.28	20000130
28.06	34.49	19991219	29.25	34.24	20000131
28.00	34.51	19991220	29.13	34.26	20000201
27.90	34.54	19991221	29.34	34.20	20000202
28.05	34.52	19991222	29.34	34.18	20000203
28.18	34.49	19991223	29.23	34.26	20000204
27.98	34.49	19991224	29.43	34.20	20000205
27.91	34.51	19991225	29.14	34.31	20000206
28.10	34.44	19991226	29.26	34.25	20000207
28.15	34.42	19991227	29.02	34.31	20000208
28.14	34.44	19991228	28.95	34.38	20000209

Feb 2000 - May 2000

SST	SSS	Y / M / D	SST	SSS	Y / M / D
29.12	34.31	20000210	28.90	34.14	20000322
29.13	34.35	20000211	29.00	34.08	20000323
29.18	34.34	20000212	29.08	34.09	20000324
29.28	34.31	20000213	29.19	34.02	20000325
29.17	34.35	20000214	29.16	34.03	20000326
29.33	34.31	20000215	29.15	34.06	20000327
29.39	34.23	20000216	29.16	33.99	20000328
29.46	34.25	20000217	29.03	33.96	20000329
29.43	34.22	20000218	28.97	34.04	20000330
29.45	34.20	20000219	28.92	34.04	20000331
29.53	34.17	20000220	28.89	34.06	20000401
29.50	34.14	20000221	28.79	34.04	20000402
29.19	34.09	20000222	28.78	34.03	20000403
29.07	34.04	20000223	28.73	34.03	20000404
29.09	34.06	20000224	28.72	34.03	20000405
29.13	34.07	20000225	28.71	34.02	20000406
29.17	34.06	20000226	28.76	33.99	20000407
29.13	34.07	20000227	28.73	34.02	20000408
29.04	34.00	20000228	28.74	34.04	20000409
28.98	33.98	20000229	28.73	34.04	20000410
28.91	33.98	20000301	28.69	34.05	20000411
28.85	33.91	20000302	28.56	34.08	20000412
28.90	33.90	20000303	28.51	34.06	20000413
28.97	33.92	20000304	28.49	34.05	20000414
29.07	33.86	20000305	28.52	34.04	20000415
29.06	33.89	20000306	28.49	34.05	20000416
29.02	33.94	20000307	28.50	34.07	20000417
29.03	33.98	20000308	28.57	34.03	20000418
29.08	33.95	20000309	28.59	34.05	20000419
28.97	33.96	20000310	28.57	34.06	20000420
28.95	33.94	20000311	28.73	34.00	20000421
29.05	33.89	20000312	28.88	33.93	20000422
28.95	34.05	20000313	28.95	33.89	20000423
29.06	34.02	20000314	29.01	33.81	20000424
28.99	34.09	20000315	28.90	33.80	20000425
29.04	34.04	20000316	28.91	33.70	20000426
29.05	34.06	20000317	28.91	33.69	20000427
28.93	34.07	20000318	28.79	33.69	20000428
28.73	34.19	20000319	28.69	33.55	20000429
28.81	34.15	20000320	28.58	33.44	20000430
28.87	34.15	20000321	28.54	33.32	20000501

May 2000 - Jul 2000

SST	SSS	Y / M / D	SST	SSS	Y / M / D
28.50	33.26	20000502	27.79	33.64	20000612
28.51	33.27	20000503	27.73	33.63	20000613
28.39	33.24	20000504	27.59	33.67	20000614
28.44	33.29	20000505	27.45	33.72	20000615
28.51	33.34	20000506	27.26	33.72	20000616
28.49	33.34	20000507	27.18	33.76	20000617
28.57	33.36	20000508	27.13	33.74	20000618
28.59	33.38	20000509	27.15	33.75	20000619
28.69	33.41	20000510	27.21	33.75	20000620
28.64	33.44	20000511	27.26	33.76	20000621
28.51	33.37	20000512	27.23	33.76	20000622
28.50	33.40	20000513	27.09	33.77	20000623
28.50	33.47	20000514	27.02	33.74	20000624
28.46	33.50	20000515	26.98	33.71	20000625
28.51	33.53	20000516	26.95	33.70	20000626
28.50	33.55	20000517	26.92	33.72	20000627
28.49	33.54	20000518	26.86	33.72	20000628
28.45	33.52	20000519	26.81	33.72	20000629
28.42	33.52	20000520	26.78	33.72	20000630
28.40	33.52	20000521	26.76	33.74	20000701
28.42	33.53	20000522	26.71	33.75	20000702
28.36	33.53	20000523	26.66	33.82	20000703
28.34	33.53	20000524	26.62	33.87	20000704
28.36	33.52	20000525	26.64	33.92	20000705
28.39	33.50	20000526	26.68	33.96	20000706
28.35	33.51	20000527	26.63	33.96	20000707
28.33	33.50	20000528	26.68	34.01	20000708
28.29	33.49	20000529	26.71	34.00	20000709
28.26	33.51	20000530	26.72	33.99	20000710
28.28	33.53	20000531	26.72	33.97	20000711
28.31	33.56	20000601	26.81	33.95	20000712
28.33	33.56	20000602	26.83	33.95	20000713
28.19	33.58	20000603	26.86	33.96	20000714
28.13	33.54	20000604	26.83	33.98	20000715
28.10	33.57	20000605	26.78	33.98	20000716
28.04	33.58	20000606	26.70	34.00	20000717
28.00	33.60	20000607	26.55	34.01	20000718
27.93	33.59	20000608	26.52	34.00	20000719
27.86	33.62	20000609	26.43	34.02	20000720
27.89	33.63	20000610	26.35	34.00	20000721
27.85	33.65	20000611	26.50	33.96	20000722

Jul 2000 - Oct 2000

SST	SSS	Y / M / D	SST	SSS	Y / M / D
26.48	33.99	20000723	27.62	34.39	20000902
26.41	34.00	20000724	27.63	34.41	20000903
26.49	33.97	20000725	27.52	34.43	20000904
26.47	33.98	20000726	27.45	34.38	20000905
26.58	33.98	20000727	27.60	34.22	20000906
26.58	33.99	20000728	27.68	34.38	20000907
26.60	33.98	20000729	27.99	34.36	20000908
26.53	34.02	20000730	28.07	34.37	20000909
26.55	34.03	20000731	27.93	34.39	20000910
26.42	34.06	20000801	27.74	34.40	20000911
26.45	34.07	20000802	27.81	34.34	20000912
26.72	34.05	20000803	27.56	34.42	20000913
26.95	33.99	20000804	27.64	34.36	20000914
27.00	33.90	20000805	27.77	34.37	20000915
26.99	33.96	20000806	27.85	34.38	20000916
26.82	33.99	20000807	27.63	34.37	20000917
26.79	34.00	20000808	27.55	34.35	20000918
26.90	33.96	20000809	27.09	34.41	20000919
26.98	33.93	20000810	26.79	34.40	20000920
26.99	33.94	20000811	26.65	34.41	20000921
26.96	33.95	20000812	26.44	34.47	20000922
26.91	33.96	20000813	26.37	34.51	20000923
26.87	33.98	20000814	26.87	34.37	20000924
26.85	33.99	20000815	26.99	34.35	20000925
26.90	34.00	20000816	26.80	34.41	20000926
26.94	34.04	20000817	26.71	34.42	20000927
26.95	34.07	20000818	26.74	34.42	20000928
26.94	34.08	20000819	26.87	34.40	20000929
26.89	34.05	20000820	26.97	34.40	20000930
26.87	34.03	20000821	27.07	34.39	20001001
26.73	34.09	20000822	27.21	34.37	20001002
26.68	34.10	20000823	27.32	34.34	20001003
26.58	34.09	20000824	27.42	34.30	20001004
27.18	34.45	20000825	27.48	34.24	20001005
27.33	34.43	20000826	27.40	34.23	20001006
27.56	34.38	20000827	27.30	34.23	20001007
27.24	34.46	20000828	27.19	34.19	20001008
27.30	34.47	20000829	27.17	34.22	20001009
27.02	34.54	20000830	27.09	34.29	20001010
27.27	34.47	20000831	26.94	34.39	20001011
27.57	34.40	20000901	27.05	34.40	20001012

Oct 2000 - Jan 2001

SST	SSS	Y / M / D	SST	SSS	Y / M / D
26.95	34.41	20001013	28.23	34.17	20001123
26.93	34.42	20001014	28.45	34.17	20001124
27.08	34.35	20001015	28.40	34.16	20001125
27.44	34.28	20001016	28.52	34.16	20001126
27.46	34.28	20001017	28.42	34.17	20001127
27.39	34.31	20001018	28.35	34.13	20001128
26.96	34.44	20001019	28.01	34.20	20001129
27.56	34.37	20001020	28.37	34.00	20001130
27.00	34.52	20001021	28.29	34.13	20001201
26.94	34.52	20001022	28.36	34.10	20001202
26.70	34.55	20001023	28.41	34.07	20001203
27.10	34.45	20001024	28.49	34.08	20001204
27.08	34.46	20001025	28.18	34.20	20001205
27.01	34.44	20001026	28.21	34.21	20001206
26.74	34.49	20001027	28.20	34.16	20001207
26.86	34.47	20001028	28.34	34.14	20001208
26.96	34.43	20001029	28.60	34.07	20001209
27.13	34.36	20001030	28.28	34.08	20001210
27.24	34.34	20001031	28.27	34.02	20001211
27.36	34.28	20001101	28.10	34.09	20001212
27.41	34.31	20001102	28.17	34.04	20001213
27.57	34.28	20001103	28.15	34.01	20001214
27.79	34.17	20001104	27.97	34.04	20001215
27.99	34.13	20001105	27.84	34.07	20001216
27.91	34.18	20001106	27.85	34.08	20001217
27.74	34.24	20001107	27.81	34.12	20001218
27.80	34.10	20001108	27.86	34.15	20001219
27.94	34.09	20001109	27.86	34.16	20001220
28.06	34.11	20001110	27.83	34.18	20001221
28.09	34.11	20001111	27.81	34.18	20001222
28.05	34.12	20001112	27.66	34.20	20001223
28.05	34.13	20001113	27.73	34.19	20001224
28.14	34.14	20001114	27.78	34.20	20001225
28.08	34.16	20001115	27.65	34.25	20001226
28.02	34.14	20001116	27.74	34.24	20001227
27.94	34.14	20001117	27.72	34.25	20001228
27.92	34.15	20001118	27.87	34.24	20001229
27.96	34.15	20001119	27.86	34.25	20001230
27.99	34.15	20001120	28.10	34.23	20001231
28.10	34.15	20001121	28.29	34.20	20010101
28.08	34.16	20001122	28.37	34.13	20010102

Jan 2001 - Mar 2001

SST	SSS	Y / M / D	SST	SSS	Y / M / D
28.39	34.10	20010103	28.82	34.00	20010213
28.26	34.12	20010104	29.14	33.96	20010214
28.11	34.15	20010105	29.37	33.94	20010215
28.28	34.13	20010106	29.23	34.02	20010216
28.43	34.11	20010107	29.29	34.00	20010217
28.50	34.10	20010108	29.26	34.00	20010218
28.36	34.13	20010109	29.27	34.02	20010219
28.42	34.14	20010110	29.32	34.02	20010220
28.28	34.17	20010111	29.30	34.05	20010221
28.87	34.11	20010112	29.30	34.05	20010222
29.24	34.03	20010113	29.38	34.05	20010223
29.11	34.05	20010114	29.34	34.07	20010224
28.92	34.08	20010115	29.39	34.04	20010225
29.06	34.08	20010116	29.34	34.06	20010226
29.28	34.03	20010117	29.15	34.13	20010227
29.37	34.02	20010118	28.09	34.31	20010228
29.32	34.03	20010119	28.31	34.29	20010301
29.36	33.98	20010120	28.26	34.33	20010302
29.38	34.02	20010121	28.35	34.33	20010303
29.18	34.12	20010122	28.59	34.31	20010304
29.08	34.12	20010123	28.57	34.30	20010305
29.14	34.08	20010124	28.69	34.36	20010306
28.72	34.14	20010125	28.73	34.38	20010307
29.00	34.15	20010126	28.73	34.39	20010308
29.23	34.12	20010127	28.93	34.40	20010309
29.20	34.12	20010128	28.87	34.41	20010310
28.86	34.16	20010129	28.97	34.41	20010311
29.29	34.12	20010130	29.03	34.40	20010312
29.14	34.15	20010131	29.27	34.40	20010313
29.19	34.14	20010201	29.12	34.41	20010314
29.43	34.14	20010202	29.18	34.41	20010315
29.48	34.14	20010203	29.31	34.39	20010316
29.90	34.12	20010204	29.30	34.38	20010317
29.69	34.08	20010205	29.48	34.37	20010318
29.21	34.14	20010206	29.72	34.32	20010319
29.35	34.09	20010207	30.01	34.23	20010320
28.86	34.11	20010208	29.98	34.20	20010321
28.82	34.06	20010209	29.96	34.18	20010322
28.68	34.02	20010210	29.75	34.24	20010323
28.83	34.00	20010211	29.64	34.29	20010324
29.02	33.95	20010212	29.42	34.32	20010325

Mar 2001 - Jun 2001

SST	SSS	Y / M / D	SST	SSS	Y / M / D
29.08	34.37	20010326	29.05	34.34	20010506
29.19	34.31	20010327	29.08	34.32	20010507
28.76	34.40	20010328	29.06	34.22	20010508
29.28	34.26	20010329	29.03	34.18	20010509
28.85	34.36	20010330	29.18	34.20	20010510
29.12	34.26	20010331	29.15	34.19	20010511
29.23	34.27	20010401	29.07	34.16	20010512
29.22	34.27	20010402	29.04	34.23	20010513
29.37	34.27	20010403	28.95	34.28	20010514
29.36	34.26	20010404	28.84	34.27	20010515
29.29	34.26	20010405	28.70	34.29	20010516
29.24	34.29	20010406	28.63	34.33	20010517
28.74	34.41	20010407	28.64	34.34	20010518
28.32	34.48	20010408	28.53	34.31	20010519
28.40	34.45	20010409	28.48	34.30	20010520
28.27	34.49	20010410	28.45	34.31	20010521
28.32	34.51	20010411	28.46	34.32	20010522
28.23	34.60	20010412	28.49	34.31	20010523
28.32	34.58	20010413	28.52	34.29	20010524
28.28	34.56	20010414	28.54	34.27	20010525
28.54	34.39	20010415	28.50	34.28	20010526
28.64	34.20	20010416	28.51	34.28	20010527
28.61	34.28	20010417	28.53	34.28	20010528
28.67	34.23	20010418	28.40	34.28	20010529
28.46	34.48	20010419	28.40	34.28	20010530
28.53	34.44	20010420	28.38	34.29	20010531
28.52	34.38	20010421	28.26	34.30	20010601
28.76	34.16	20010422	28.12	34.32	20010602
29.02	34.03	20010423	28.02	34.32	20010603
29.03	34.10	20010424	27.92	34.32	20010604
29.09	34.19	20010425	27.81	34.32	20010605
29.04	34.31	20010426	27.67	34.32	20010606
29.17	34.16	20010427	27.55	34.35	20010607
29.19	34.24	20010428	27.47	34.35	20010608
29.38	34.23	20010429	27.63	34.34	20010609
29.38	34.23	20010430	27.59	34.35	20010610
29.43	34.24	20010501	27.43	34.36	20010611
29.33	34.26	20010502	27.40	34.41	20010612
29.23	34.26	20010503	27.40	34.40	20010613
29.17	34.28	20010504	27.44	34.39	20010614
29.05	34.30	20010505	27.45	34.37	20010615

Jun 2001 - Sept 2001

SST	SSS	Y / M / D	SST	SSS	Y / M / D
27.36	34.40	20010616	26.07	34.59	20010727
27.26	34.40	20010617	26.06	34.59	20010728
27.27	34.43	20010618	26.04	34.60	20010729
27.19	34.49	20010619	26.16	34.58	20010730
27.10	34.53	20010620	26.26	34.57	20010731
26.97	34.54	20010621	26.17	34.57	20010801
26.91	34.55	20010622	26.35	34.59	20010802
26.87	34.54	20010623	26.21	34.62	20010803
26.80	34.55	20010624	26.30	34.62	20010804
26.79	34.52	20010625	26.19	34.65	20010805
26.83	34.51	20010626	25.97	34.69	20010806
26.76	34.51	20010627	25.98	34.70	20010807
26.74	34.49	20010628	25.97	34.70	20010808
26.77	34.45	20010629	25.98	34.71	20010809
26.94	34.39	20010630	25.90	34.72	20010810
26.89	34.42	20010701	26.14	34.67	20010811
26.84	34.43	20010702	26.17	34.65	20010812
26.66	34.46	20010703	25.99	34.69	20010813
26.52	34.49	20010704	25.86	34.74	20010814
26.45	34.52	20010705	25.74	34.76	20010815
26.47	34.52	20010706	25.63	34.79	20010816
26.46	34.53	20010707	25.53	34.80	20010817
26.42	34.53	20010708	25.56	34.77	20010818
26.42	34.53	20010709	25.62	34.76	20010819
26.37	34.54	20010710	25.62	34.76	20010820
26.31	34.56	20010711	25.55	34.79	20010821
26.35	34.53	20010712	25.51	34.77	20010822
26.50	34.49	20010713	25.45	34.83	20010823
26.47	34.49	20010714	25.49	34.81	20010824
26.45	34.49	20010715	25.53	34.81	20010825
26.38	34.51	20010716	25.50	34.81	20010826
26.60	34.47	20010717	25.60	34.80	20010827
26.50	34.50	20010718	25.75	34.79	20010828
26.62	34.48	20010719	25.83	34.77	20010829
26.54	34.46	20010720	25.96	34.72	20010830
26.40	34.46	20010721	26.20	34.67	20010831
26.35	34.53	20010722	25.76	34.77	20010901
26.38	34.53	20010723	25.69	34.79	20010902
26.32	34.55	20010724	25.66	34.79	20010903
26.28	34.55	20010725	25.68	34.79	20010904
26.18	34.57	20010726	25.72	34.79	20010905

Sept 2001 - Nov 2001

SST	SSS	Y / M / D	SST	SSS	Y / M / D
25.67	34.80	20010906	27.12	34.73	20011017
25.74	34.80	20010907	27.12	34.72	20011018
25.86	34.77	20010908	27.14	34.73	20011019
25.95	34.75	20010909	27.37	34.71	20011020
25.94	34.75	20010910	27.29	34.70	20011021
26.09	34.72	20010911	27.31	34.69	20011022
26.66	34.62	20010912	27.04	34.70	20011023
26.79	34.60	20010913	26.96	34.71	20011024
26.71	34.61	20010914	26.96	34.72	20011025
26.89	34.60	20010915	27.01	34.72	20011026
26.76	34.61	20010916	27.22	34.69	20011027
26.85	34.62	20010917	27.27	34.67	20011028
26.62	34.65	20010918	27.33	34.67	20011029
26.61	34.65	20010919	27.39	34.67	20011030
26.62	34.66	20010920	27.61	34.63	20011031
26.82	34.61	20010921	27.81	34.63	20011101
26.82	34.62	20010922	27.87	34.63	20011102
27.12	34.61	20010923	28.02	34.61	20011103
27.30	34.59	20010924	27.96	34.59	20011104
27.26	34.58	20010925	27.99	34.55	20011105
27.31	34.58	20010926	27.91	34.55	20011106
27.38	34.59	20010927	27.89	34.55	20011107
27.45	34.57	20010928	27.91	34.55	20011108
27.32	34.57	20010929	28.00	34.55	20011109
27.03	34.61	20010930	28.08	34.55	20011110
26.87	34.67	20011001	28.01	34.52	20011111
26.94	34.69	20011002	27.98	34.53	20011112
26.82	34.73	20011003	27.94	34.55	20011113
26.96	34.69	20011004	28.14	34.56	20011114
26.79	34.68	20011005	28.00	34.58	20011115
26.65	34.69	20011006	27.99	34.59	20011116
27.04	34.64	20011007	27.98	34.59	20011117
27.06	34.65	20011008	27.98	34.60	20011118
27.12	34.71	20011009	27.99	34.59	20011119
26.89	34.72	20011010	28.09	34.57	20011120
27.26	34.70	20011011	28.08	34.59	20011121
27.17	34.72	20011012	28.20	34.61	20011122
27.27	34.70	20011013	28.38	34.62	20011123
27.18	34.72	20011014	28.72	34.63	20011124
27.14	34.73	20011015	28.86	34.62	20011125
26.98	34.75	20011016	28.61	34.61	20011126

Nov 2001 - Feb 2002

SST	SSS	Y / M / D	SST	SSS	Y / M / D
28.61	34.63	20011127	29.66	34.86	20020107
28.56	34.63	20011128	29.64	34.82	20020108
28.32	34.65	20011129	29.70	34.82	20020109
28.56	34.64	20011130	29.78	34.85	20020110
28.41	34.65	20011201	29.80	34.79	20020111
28.36	34.67	20011202	29.58	34.80	20020112
28.17	34.70	20011203	29.66	34.85	20020113
28.21	34.69	20011204	29.83	34.88	20020114
28.27	34.68	20011205	29.73	34.85	20020115
28.68	34.64	20011206	29.83	34.76	20020116
28.58	34.65	20011207	29.75	34.82	20020117
28.79	34.66	20011208	29.75	34.88	20020118
28.76	34.67	20011209	29.82	34.89	20020119
28.79	34.67	20011210	29.90	34.84	20020120
28.85	34.67	20011211	29.84	34.87	20020121
28.74	34.70	20011212	29.94	34.87	20020122
28.63	34.70	20011213	29.89	34.85	20020123
28.71	34.71	20011214	30.03	34.83	20020124
28.56	34.75	20011215	30.00	34.79	20020125
28.66	34.76	20011216	29.98	34.77	20020126
28.68	34.76	20011217	29.89	34.74	20020127
28.81	34.74	20011218	29.90	34.74	20020128
29.04	34.84	20011219	29.75	34.75	20020129
29.25	35.00	20011220	29.71	34.74	20020130
29.37	35.01	20011221	29.64	34.73	20020131
29.32	35.04	20011222	29.63	34.68	20020201
29.23	35.05	20011223	29.62	34.66	20020202
29.23	35.03	20011224	29.51	34.65	20020203
29.22	35.02	20011225	29.68	34.60	20020204
29.05	34.79	20011226	29.85	34.59	20020205
29.31	34.88	20011227	29.89	34.58	20020206
29.29	34.87	20011228	29.97	34.47	20020207
29.33	34.93	20011229	29.85	34.52	20020208
29.44	34.97	20011230	29.79	34.51	20020209
29.38	34.95	20011231	29.70	34.56	20020210
29.37	34.94	20020101	29.81	34.54	20020211
29.41	34.90	20020102	29.80	34.55	20020212
29.38	34.87	20020103	29.96	34.51	20020213
29.38	34.86	20020104	29.95	34.51	20020214
29.40	34.86	20020105	29.97	34.46	20020215
29.53	34.86	20020106	30.08	34.43	20020216

Feb 2002 - May 2002

SST	SSS	Y / M / D	SST	SSS	Y / M / D
30.13	34.43	20020217	29.07	34.48	20020330
30.01	34.44	20020218	29.05	34.46	20020331
29.92	34.44	20020219	29.04	34.47	20020401
29.85	34.43	20020220	29.31	34.47	20020402
29.80	34.43	20020221	29.26	34.47	20020403
29.72	34.43	20020222	29.34	34.45	20020404
29.69	34.44	20020223	29.33	34.43	20020405
29.64	34.44	20020224	29.40	34.40	20020406
29.55	34.45	20020225	29.53	34.38	20020407
29.54	34.44	20020226	29.54	34.37	20020408
29.41	34.45	20020227	29.33	34.36	20020409
29.37	34.45	20020228	29.15	34.37	20020410
29.44	34.45	20020301	29.17	34.36	20020411
29.53	34.44	20020302	29.10	34.36	20020412
29.67	34.47	20020303	29.16	34.38	20020413
29.66	34.46	20020304	29.13	34.38	20020414
29.76	34.49	20020305	29.13	34.39	20020415
29.84	34.51	20020306	29.02	34.40	20020416
29.73	34.54	20020307	29.14	34.37	20020417
29.62	34.45	20020308	29.11	34.35	20020418
29.51	34.53	20020309	29.08	34.32	20020419
29.44	34.47	20020310	29.06	34.33	20020420
29.40	34.51	20020311	29.10	34.32	20020421
29.41	34.49	20020312	29.08	34.32	20020422
29.34	34.42	20020313	29.14	34.30	20020423
29.16	34.36	20020314	29.10	34.31	20020424
29.00	34.36	20020315	29.16	34.31	20020425
28.97	34.36	20020316	29.19	34.25	20020426
28.96	34.35	20020317	29.10	34.22	20020427
29.05	34.35	20020318	28.92	34.20	20020428
28.85	34.39	20020319	28.66	34.20	20020429
28.90	34.43	20020320	28.54	34.23	20020430
28.84	34.43	20020321	28.57	34.19	20020501
28.91	34.44	20020322	28.51	34.22	20020502
29.03	34.46	20020323	28.22	34.24	20020503
29.17	34.47	20020324	28.10	34.28	20020504
29.15	34.48	20020325	28.04	34.29	20020505
29.09	34.49	20020326	28.03	34.29	20020506
29.13	34.49	20020327	28.00	34.29	20020507
29.18	34.49	20020328	27.88	34.11	20020508
29.14	34.48	20020329	28.06	34.13	20020509

May 2002 - Jul 2002

SST	SSS	Y / M / D	SST	SSS	Y / M / D
27.96	34.13	20020510	26.99	34.63	20020620
27.89	34.15	20020511	27.07	34.64	20020621
27.83	34.19	20020512	27.05	34.64	20020622
27.86	34.22	20020513	27.02	34.65	20020623
27.84	34.23	20020514	26.90	34.66	20020624
27.77	34.24	20020515	26.78	34.65	20020625
27.77	34.21	20020516	26.95	34.62	20020626
27.72	34.24	20020517	27.14	34.57	20020627
27.63	34.23	20020518	27.30	34.53	20020628
27.60	34.21	20020519	27.20	34.53	20020629
27.69	34.17	20020520	27.16	34.52	20020630
27.77	34.14	20020521	26.98	34.54	20020701
27.77	34.12	20020522	26.98	34.53	20020702
27.74	34.16	20020523	27.01	34.52	20020703
27.71	34.22	20020524	26.91	34.53	20020704
27.74	34.23	20020525	26.82	34.54	20020705
27.74	34.29	20020526	26.81	34.54	20020706
27.65	34.31	20020527	26.69	34.56	20020707
27.60	34.32	20020528	26.61	34.59	20020708
27.57	34.40	20020529	26.56	34.73	20020709
27.59	34.47	20020530	26.59	34.72	20020710
27.63	34.50	20020531	26.71	34.70	20020711
27.61	34.49	20020601	26.66	34.70	20020712
27.52	34.46	20020602	26.57	34.70	20020713
27.53	34.47	20020603	26.63	34.67	20020714
27.40	34.54	20020604	26.57	34.66	20020715
27.37	34.55	20020605	26.46	34.68	20020716
27.31	34.55	20020606	26.36	34.67	20020717
27.24	34.54	20020607	26.46	34.65	20020718
27.30	34.54	20020608	26.65	34.64	20020719
27.17	34.56	20020609	26.65	34.64	20020720
27.14	34.57	20020610	26.85	34.64	20020721
27.05	34.58	20020611	26.54	34.67	20020722
26.81	34.60	20020612	26.77	34.65	20020723
26.70	34.60	20020613	26.88	34.64	20020724
26.78	34.61	20020614	27.01	34.61	20020725
26.80	34.61	20020615	27.02	34.59	20020726
26.82	34.61	20020616	26.84	34.62	20020727
26.88	34.62	20020617	26.71	34.63	20020728
26.94	34.62	20020618	26.53	34.65	20020729
26.97	34.61	20020619	26.44	34.66	20020730

Jul 2002 - Oct 2002

SST	SSS	Y / M / D	SST	SSS	Y / M / D
26.45	34.64	20020731	26.84	34.61	20020910
26.53	34.61	20020801	26.86	34.62	20020911
26.62	34.60	20020802	26.89	34.62	20020912
26.58	34.61	20020803	26.84	34.61	20020913
26.58	34.61	20020804	26.72	34.61	20020914
26.59	34.61	20020805	26.55	34.56	20020915
26.52	34.62	20020806	26.41	34.56	20020916
26.71	34.60	20020807	26.30	34.58	20020917
26.78	34.60	20020808	26.33	34.58	20020918
26.93	34.60	20020809	26.31	34.58	20020919
26.77	34.59	20020810	26.26	34.58	20020920
26.51	34.61	20020811	26.28	34.60	20020921
26.41	34.64	20020812	26.34	34.64	20020922
26.33	34.66	20020813	26.46	34.68	20020923
26.27	34.69	20020814	26.46	34.78	20020924
26.34	34.66	20020815	26.46	34.84	20020925
26.18	34.68	20020816	26.49	34.85	20020926
26.02	34.68	20020817	26.57	34.88	20020927
25.92	34.69	20020818	26.60	34.86	20020928
26.41	34.63	20020819	26.63	34.85	20020929
26.60	34.61	20020820	26.61	34.85	20020930
26.52	34.59	20020821	26.55	34.86	20021001
26.33	34.62	20020822	26.45	34.88	20021002
26.34	34.62	20020823	26.48	34.89	20021003
26.57	34.59	20020824	26.45	34.89	20021004
26.43	34.62	20020825	26.40	34.89	20021005
26.55	34.61	20020826	26.28	34.90	20021006
26.29	34.66	20020827	26.32	34.90	20021007
26.26	34.65	20020828	26.31	34.90	20021008
26.06	34.66	20020829	26.08	34.99	20021009
26.01	34.66	20020830	25.94	35.05	20021010
25.97	34.67	20020831	25.81	35.05	20021011
25.88	34.69	20020901	25.87	35.03	20021012
25.99	34.71	20020902	25.89	34.98	20021013
26.16	34.68	20020903	25.85	34.94	20021014
26.55	34.59	20020904	25.81	34.93	20021015
26.76	34.61	20020905	25.83	34.93	20021016
26.81	34.60	20020906	25.96	34.92	20021017
26.85	34.60	20020907	25.93	34.90	20021018
26.85	34.59	20020908	26.07	34.88	20021019
26.82	34.56	20020909	26.19	34.86	20021020

Oct 2002 - Jan 2003

SST	SSS	Y / M / D	SST	SSS	Y / M / D
26.18	34.86	20021021	26.75	34.40	20021201
26.28	34.86	20021022	26.75	33.82	20021202
26.51	34.83	20021023	26.72	33.83	20021203
26.49	34.82	20021024	26.69	33.86	20021204
26.76	34.75	20021025	26.71	33.90	20021205
26.75	34.73	20021026	26.71	33.89	20021206
26.74	34.75	20021027	26.76	34.12	20021207
26.55	34.79	20021028	26.74	33.93	20021208
26.51	34.82	20021029	26.90	34.08	20021209
26.62	34.89	20021030	26.99	34.60	20021210
26.72	34.89	20021031	26.90	34.88	20021211
26.58	34.92	20021101	26.84	34.96	20021212
26.49	34.95	20021102	27.13	34.93	20021213
26.53	34.91	20021103	27.12	34.93	20021214
26.40	34.93	20021104	26.92	35.02	20021215
26.26	34.94	20021105	27.18	34.95	20021216
26.26	34.95	20021106	27.56	34.83	20021217
26.43	34.94	20021107	27.65	34.79	20021218
26.49	34.93	20021108	27.85	34.84	20021219
26.45	34.93	20021109	27.51	34.90	20021220
26.50	34.92	20021110	27.29	34.95	20021221
26.68	34.82	20021111	27.40	34.94	20021222
26.89	34.73	20021112	27.41	34.95	20021223
27.00	34.72	20021113	27.38	34.99	20021224
27.05	34.69	20021114	27.57	34.99	20021225
27.16	34.61	20021115	27.50	35.00	20021226
27.34	34.48	20021116	27.80	34.96	20021227
27.36	34.42	20021117	27.77	34.90	20021228
27.14	34.47	20021118	27.97	34.84	20021229
27.15	34.46	20021119	27.89	34.88	20021230
27.07	34.47	20021120	27.78	34.89	20021231
27.00	34.50	20021121	27.96	34.88	20030101
26.98	34.52	20021122	27.84	34.91	20030102
26.96	34.52	20021123	28.05	34.88	20030103
26.95	34.55	20021124	27.87	34.90	20030104
26.89	34.58	20021125	27.80	34.94	20030105
26.80	34.60	20021126	27.97	34.91	20030106
26.78	34.58	20021127	27.97	34.92	20030107
26.75	34.72	20021128	27.93	34.93	20030108
26.73	34.73	20021129	28.16	34.91	20030109
26.74	34.86	20021130	28.20	34.99	20030110

Jan 2003 - Apr 2003

SST	SSS	Y / M / D	SST	SSS	Y / M / D
28.10	34.99	20030111	28.70	34.87	20030221
28.32	34.95	20030112	28.72	34.88	20030222
28.53	34.95	20030113	28.88	34.84	20030223
28.56	34.88	20030114	28.92	34.85	20030224
28.69	34.78	20030115	28.82	34.85	20030225
28.51	34.75	20030116	28.95	34.81	20030226
28.39	34.84	20030117	28.87	34.79	20030227
28.64	34.75	20030118	29.02	34.77	20030228
28.81	34.67	20030119	28.94	34.78	20030301
28.74	34.70	20030120	29.00	34.78	20030302
28.72	34.76	20030121	29.15	34.81	20030303
29.11	34.82	20030122	29.14	34.87	20030304
28.83	34.91	20030123	28.98	34.86	20030305
28.75	34.85	20030124	29.05	34.86	20030306
28.75	34.70	20030125	28.96	34.86	20030307
28.83	34.69	20030126	28.95	34.87	20030308
28.73	34.67	20030127	29.08	34.88	20030309
28.67	34.66	20030128	29.12	34.88	20030310
28.64	34.64	20030129	29.19	34.85	20030311
28.46	34.78	20030130	29.26	34.86	20030312
28.50	34.77	20030131	28.95	34.97	20030317
28.51	34.77	20030201	28.94	34.96	20030318
28.35	34.82	20030202	28.69	35.00	20030319
28.49	34.81	20030203	28.85	34.97	20030320
28.14	34.87	20030204	28.81	34.99	20030321
28.51	34.79	20030205	28.71	34.99	20030322
28.57	34.84	20030206	28.98	34.97	20030323
28.45	34.88	20030207	29.20	34.99	20030324
28.73	34.86	20030208	29.16	34.98	20030325
28.64	34.88	20030209	29.37	34.95	20030326
29.02	34.87	20030210	29.37	34.97	20030327
28.99	34.87	20030211	29.53	34.96	20030328
29.00	34.90	20030212	29.63	34.94	20030329
28.99	34.88	20030213	29.47	34.94	20030330
29.03	34.87	20030214	29.39	34.95	20030331
28.91	34.87	20030215	29.45	34.93	20030401
28.82	34.89	20030216	29.27	34.98	20030402
28.78	34.89	20030217	29.41	34.97	20030403
28.60	34.91	20030218	29.07	35.03	20030404
28.44	34.92	20030219	29.32	35.03	20030405
28.56	34.89	20030220	29.32	35.03	20030406

Apr 2003 - Jun 2003

SST	SSS	Y / M / D	SST	SSS	Y / M / D
29.17	35.02	20030407	27.96	34.99	20030518
29.45	34.95	20030408	28.00	34.97	20030519
29.20	35.03	20030409	27.99	34.99	20030520
29.23	35.04	20030410	28.32	34.98	20030521
29.01	35.08	20030411	28.07	34.99	20030522
28.93	35.09	20030412	28.06	34.97	20030523
28.77	35.10	20030413	28.07	34.99	20030524
28.77	35.12	20030414	28.17	35.00	20030525
28.61	35.15	20030415	28.07	35.00	20030526
28.54	35.16	20030416	28.04	35.00	20030527
28.34	35.19	20030417	27.85	35.02	20030528
28.27	35.20	20030418	27.86	35.00	20030529
28.25	35.20	20030419	27.74	35.02	20030530
28.26	35.20	20030420	27.87	34.95	20030531
28.30	35.19	20030421	28.10	34.94	20030601
28.27	35.18	20030422	27.99	34.95	20030602
28.33	35.16	20030423	27.93	34.97	20030603
28.54	35.13	20030424	27.84	34.98	20030604
28.45	35.13	20030425	27.73	34.95	20030605
28.58	35.14	20030426	27.56	34.94	20030606
28.56	35.12	20030427	27.39	34.96	20030607
28.55	35.12	20030428	27.39	34.92	20030608
28.45	35.14	20030429	27.05	34.92	20030609
28.43	35.15	20030430	27.00	34.84	20030610
28.37	35.14	20030501	26.90	34.82	20030611
28.28	35.16	20030502	26.78	34.90	20030612
28.29	35.12	20030503	26.91	34.86	20030613
28.32	35.12	20030504	26.89	34.89	20030614
28.14	35.15	20030505	26.78	34.91	20030615
28.09	35.14	20030506	26.74	34.90	20030616
28.00	35.13	20030507	26.53	34.94	20030617
27.89	35.14	20030508	26.46	34.96	20030618
27.84	35.13	20030509	26.99	34.85	20030619
27.79	35.14	20030510	27.20	34.84	20030620
27.84	35.13	20030511	27.56	34.84	20030621
27.88	35.10	20030512	27.65	34.83	20030622
27.86	35.10	20030513	27.69	34.84	20030623
27.70	35.09	20030514	27.64	34.86	20030624
27.72	35.06	20030515	27.65	34.87	20030625
27.91	35.05	20030516	27.66	34.86	20030626
27.82	35.00	20030517	27.68	34.79	20030627

Jun 2003 - Sept 2003

SST	SSS	Y / M / D	SST	SSS	Y / M / D
27.69	34.84	20030628	26.44	34.93	20030808
27.70	34.84	20030629	26.59	34.89	20030809
27.73	34.83	20030630	26.60	34.82	20030810
27.71	34.83	20030701	26.52	34.86	20030811
27.63	34.81	20030702	26.38	34.87	20030812
27.57	34.82	20030703	26.18	34.90	20030813
27.50	34.83	20030704	25.86	34.98	20030814
27.31	34.84	20030705	25.77	34.98	20030815
27.12	34.85	20030706	25.89	34.95	20030816
26.92	34.86	20030707	26.18	34.94	20030817
26.68	34.89	20030708	26.32	34.94	20030818
26.49	34.89	20030709	26.44	34.95	20030819
26.46	34.90	20030710	26.02	34.98	20030820
26.41	34.91	20030711	26.05	34.97	20030821
26.39	34.92	20030712	26.31	34.91	20030822
26.32	34.94	20030713	26.43	34.85	20030823
26.17	34.94	20030714	26.39	34.84	20030824
26.16	34.94	20030715	26.37	34.75	20030825
26.30	34.95	20030716	26.24	34.88	20030826
26.24	34.93	20030717	26.32	34.85	20030827
26.25	34.94	20030718	26.21	34.83	20030828
26.19	34.95	20030719	25.81	34.91	20030829
26.08	34.95	20030720	25.72	34.85	20030830
26.08	34.92	20030721	25.67	34.92	20030831
25.98	34.94	20030722	25.74	34.91	20030901
26.01	34.94	20030723	25.77	34.89	20030902
25.91	35.00	20030724	25.71	34.92	20030903
25.91	35.02	20030725	25.72	34.93	20030904
25.89	35.04	20030726	25.74	35.03	20030905
25.92	35.04	20030727	25.65	35.03	20030906
25.91	35.06	20030728	25.64	35.03	20030907
25.92	35.06	20030729	25.73	35.03	20030908
25.97	35.06	20030730	25.66	34.98	20030909
25.88	35.06	20030731	25.57	34.99	20030910
26.04	35.06	20030801	25.70	35.02	20030911
25.84	35.07	20030802	25.67	34.96	20030912
25.73	35.07	20030803	25.77	34.88	20030913
26.15	34.93	20030804	25.84	34.99	20030914
26.41	34.86	20030805	25.85	35.06	20030915
26.06	34.96	20030806	25.92	34.97	20030916
26.24	34.93	20030807	26.07	35.06	20030917

Sept 2003 - Dec 2003

SST	SSS	Y / M / D	SST	SSS	Y / M / D
25.95	35.06	20030918	26.14	34.75	20031029
26.04	35.07	20030919	26.28	34.80	20031030
26.04	34.88	20030920	26.43	34.82	20031031
26.09	34.93	20030921	26.40	34.75	20031101
26.01	35.08	20030922	26.45	34.72	20031102
25.90	35.09	20030923	26.57	34.66	20031103
25.70	35.12	20030924	26.69	34.58	20031104
25.61	35.12	20030925	26.70	34.65	20031105
25.59	35.12	20030926	26.61	34.82	20031106
25.71	35.09	20030927	26.62	34.82	20031107
25.80	35.05	20030928	26.73	34.81	20031108
25.94	35.02	20030929	26.81	34.72	20031109
26.10	34.98	20030930	26.85	34.72	20031110
26.24	34.95	20031001	26.95	34.79	20031111
26.34	34.95	20031002	26.94	34.79	20031112
26.39	34.97	20031003	27.07	34.80	20031113
26.45	34.95	20031004	27.08	34.71	20031114
26.52	34.94	20031005	27.11	34.75	20031115
26.30	35.01	20031006	26.95	34.82	20031116
26.16	35.01	20031007	26.85	34.87	20031117
26.36	34.95	20031008	26.81	34.88	20031118
26.56	34.92	20031009	26.84	34.72	20031119
26.74	34.90	20031010	26.83	34.81	20031120
26.84	34.88	20031011	26.84	34.91	20031121
26.87	34.87	20031012	26.79	34.96	20031122
26.99	34.83	20031013	26.72	35.00	20031123
27.03	34.79	20031014	26.82	35.01	20031124
26.97	34.66	20031015	26.74	35.03	20031125
26.90	34.58	20031016	26.70	35.05	20031126
26.97	34.66	20031017	27.05	35.04	20031127
26.87	34.78	20031018	27.00	35.01	20031128
26.60	34.76	20031019	27.06	35.02	20031129
26.52	34.61	20031020	26.95	34.98	20031130
26.54	34.70	20031021	26.96	35.00	20031201
26.29	34.74	20031022	27.02	35.02	20031202
25.88	34.78	20031023	26.97	35.03	20031203
25.88	34.73	20031024	26.98	35.03	20031204
25.95	34.83	20031025	27.06	35.02	20031205
26.08	34.91	20031026	27.08	34.99	20031206
26.03	34.80	20031027	27.06	34.96	20031207
26.07	34.78	20031028	27.22	34.94	20031208

Dec 2003 - Feb 2004

SST	SSS	Y / M / D	SST	SSS	Y / M / D
27.35	34.93	20031209	28.77	34.63	20040119
27.42	34.89	20031210	28.69	34.64	20040120
27.58	34.84	20031211	28.74	34.62	20040121
27.68	34.83	20031212	28.74	34.63	20040122
27.78	34.85	20031213	28.79	34.62	20040123
27.83	34.85	20031214	28.76	34.61	20040124
27.94	34.84	20031215	28.73	34.58	20040125
28.00	34.83	20031216	28.75	34.61	20040126
28.12	34.86	20031217	28.72	34.63	20040127
28.25	34.88	20031218	28.91	34.62	20040128
28.26	34.87	20031219	29.12	34.68	20040129
28.17	34.84	20031220	29.04	34.69	20040130
28.08	34.81	20031221	29.00	34.77	20040131
28.12	34.82	20031222	28.90	34.89	20040201
28.27	34.81	20031223	28.99	34.88	20040202
28.25	34.83	20031224	29.08	34.88	20040203
28.40	34.81	20031225	28.87	34.89	20040204
28.40	34.81	20031226	28.71	34.93	20040205
28.53	34.79	20031227	28.85	34.91	20040206
28.65	34.77	20031228	28.37	34.95	20040207
28.70	34.77	20031229	28.86	34.90	20040208
28.60	34.77	20031230	28.87	34.85	20040209
28.79	34.71	20031231	28.94	34.74	20040210
28.76	34.72	20040101	28.95	34.79	20040211
28.83	34.57	20040102	28.96	34.82	20040212
28.91	34.55	20040103	28.80	34.85	20040213
29.01	34.52	20040104	29.20	34.79	20040214
29.20	34.51	20040105	29.20	34.79	20040215
29.05	34.54	20040106	29.30	34.77	20040216
29.13	34.53	20040107	29.21	34.79	20040217
29.20	34.44	20040108	29.06	34.78	20040218
29.14	34.49	20040109	29.02	34.67	20040219
29.25	34.53	20040110	29.08	34.64	20040220
29.19	34.55	20040111	29.00	34.73	20040221
29.17	34.56	20040112	28.93	34.74	20040222
29.12	34.58	20040113	29.21	34.64	20040223
29.08	34.60	20040114	29.50	34.51	20040224
29.07	34.61	20040115	29.30	34.51	20040225
28.98	34.62	20040116	28.92	34.51	20040226
28.94	34.63	20040117	28.69	34.40	20040227
28.90	34.62	20040118	28.75	34.63	20040228

Feb 2004 - May 2004

SST	SSS	Y / M / D	SST	SSS	Y / M / D
28.72	34.71	20040229	27.53	35.08	20040412
28.47	35.01	20040303	27.48	35.08	20040413
28.44	35.03	20040304	27.53	35.07	20040414
28.34	35.08	20040305	27.57	35.05	20040415
28.13	35.11	20040306	27.64	35.07	20040416
28.31	35.11	20040307	27.62	35.08	20040417
28.37	35.12	20040308	27.61	35.07	20040418
28.57	35.14	20040309	27.58	35.08	20040419
28.63	35.15	20040310	27.43	35.04	20040420
28.87	35.11	20040311	27.41	35.06	20040421
28.83	35.13	20040312	27.45	35.07	20040422
28.85	35.12	20040313	27.44	35.07	20040423
28.88	35.09	20040314	27.50	35.05	20040424
28.85	35.09	20040315	27.53	35.03	20040425
28.95	35.11	20040316	27.56	35.05	20040426
28.76	35.11	20040317	27.49	35.05	20040427
28.21	35.14	20040318	27.45	35.06	20040428
28.64	35.06	20040319	27.45	35.07	20040429
28.41	35.09	20040320	27.50	35.07	20040430
28.37	35.00	20040321	27.53	35.06	20040501
28.18	35.01	20040322	27.53	35.06	20040502
28.32	35.02	20040323	27.56	35.05	20040503
28.36	35.04	20040324	27.52	35.05	20040504
28.46	35.06	20040325	27.48	35.05	20040505
28.42	35.07	20040326	27.52	35.06	20040506
28.51	35.05	20040327	27.50	35.11	20040507
28.47	35.06	20040328	27.47	35.16	20040508
28.57	35.04	20040329	27.53	35.17	20040509
28.59	35.04	20040330	27.63	35.16	20040510
28.75	35.02	20040331	27.58	35.16	20040511
28.81	35.01	20040401	27.67	35.14	20040512
28.63	35.01	20040402	27.80	35.10	20040513
28.36	35.01	20040403	27.70	35.10	20040514
28.23	35.03	20040404	27.67	35.10	20040515
28.16	35.03	20040405	27.75	35.08	20040516
27.88	35.04	20040406	27.70	35.09	20040517
27.92	35.00	20040407	27.64	35.07	20040518
27.80	35.02	20040408	27.59	35.09	20040519
27.79	35.01	20040409	27.60	35.11	20040520
27.78	35.03	20040410	27.49	35.13	20040521
27.72	35.06	20040411	27.42	35.13	20040522

May 2004 - Aug 2004

SST	SSS	Y / M / D	SST	SSS	Y / M / D
27.43	35.01	20040523	26.20	35.10	20040703
27.32	34.99	20040524	26.11	35.07	20040704
27.30	34.96	20040525	26.01	35.08	20040705
27.39	34.98	20040526	26.01	35.14	20040706
27.38	35.00	20040527	26.07	35.16	20040707
27.32	34.99	20040528	26.10	35.16	20040708
27.38	34.98	20040529	26.11	35.16	20040709
27.38	34.97	20040530	26.12	35.15	20040710
27.40	35.01	20040531	26.31	35.14	20040711
27.20	35.02	20040601	26.30	35.13	20040712
27.19	35.04	20040602	26.05	35.15	20040713
27.10	35.05	20040603	25.98	35.12	20040714
27.11	35.05	20040604	26.04	35.14	20040715
27.14	35.05	20040605	26.30	35.09	20040716
27.10	35.05	20040606	26.45	35.01	20040717
27.10	35.04	20040607	25.87	35.17	20040718
27.12	35.05	20040608	25.96	35.12	20040719
27.00	35.07	20040609	26.45	34.98	20040720
26.90	35.07	20040610	26.54	34.96	20040721
26.88	35.06	20040611	26.62	34.95	20040722
26.78	35.06	20040612	26.61	34.91	20040723
26.72	35.03	20040613	26.61	34.89	20040724
26.67	35.00	20040614	26.49	34.89	20040725
26.62	35.01	20040615	26.28	34.92	20040726
26.60	35.02	20040616	26.32	34.92	20040727
26.58	35.04	20040617	26.18	34.93	20040728
26.56	35.03	20040618	26.14	34.94	20040729
26.54	35.04	20040619	26.16	34.94	20040730
26.53	35.08	20040620	26.28	34.94	20040731
26.53	35.09	20040621	26.32	34.95	20040801
26.65	35.09	20040622	26.42	34.94	20040802
26.68	35.11	20040623	26.39	34.94	20040803
26.59	35.11	20040624	26.43	34.91	20040804
26.60	35.09	20040625	26.50	34.89	20040805
26.78	35.06	20040626	26.61	34.90	20040806
26.65	35.08	20040627	26.49	34.94	20040807
26.66	35.09	20040628	26.67	34.85	20040808
26.58	35.11	20040629	26.31	34.92	20040809
26.52	35.11	20040630	26.24	34.94	20040810
26.43	35.08	20040701	26.33	34.90	20040811
26.30	35.11	20040702	26.21	34.87	20040812

Aug 2004 - Nov 2004

SST	SSS	Y / M / D	SST	SSS	Y / M / D
26.39	34.84	20040813	26.82	34.67	20040923
26.19	34.89	20040814	26.98	34.64	20040924
25.97	34.95	20040815	27.06	34.66	20040925
25.61	35.03	20040816	26.43	34.89	20040926
25.61	35.01	20040817	26.35	34.86	20040927
25.70	34.96	20040818	26.03	34.94	20040928
25.73	34.94	20040819	26.24	34.81	20040929
25.67	34.94	20040820	25.77	34.96	20040930
25.84	34.90	20040821	25.95	34.91	20041001
25.99	34.89	20040822	26.08	34.87	20041002
26.12	34.85	20040823	26.52	34.74	20041003
25.84	34.92	20040824	26.67	34.71	20041004
25.49	35.00	20040825	26.39	34.77	20041005
25.37	34.98	20040826	25.87	34.90	20041006
25.18	35.00	20040827	26.06	34.78	20041007
25.21	34.99	20040828	25.93	34.83	20041008
25.54	34.92	20040829	26.03	34.78	20041009
25.52	34.89	20040830	26.22	34.64	20041010
25.52	34.91	20040831	25.95	34.71	20041011
25.55	34.92	20040901	26.13	34.66	20041012
25.66	34.91	20040902	26.22	34.68	20041013
25.73	34.90	20040903	26.40	34.72	20041014
25.87	34.88	20040904	26.47	34.68	20041015
26.01	34.86	20040905	26.57	34.62	20041016
26.87	34.67	20040906	26.69	34.60	20041017
27.21	34.61	20040907	26.64	34.53	20041018
26.95	34.70	20040908	26.75	34.51	20041019
26.78	34.76	20040909	26.66	34.54	20041020
25.95	35.02	20040910	26.47	34.62	20041021
25.75	35.03	20040911	26.71	34.55	20041022
26.21	34.90	20040912	27.51	34.42	20041023
25.86	34.93	20040913	27.58	34.47	20041024
25.34	35.06	20040914	27.12	34.57	20041025
25.26	35.09	20040915	26.97	34.62	20041026
25.15	35.15	20040916	27.02	34.59	20041027
25.22	35.13	20040917	27.04	34.58	20041028
25.40	35.05	20040918	27.09	34.61	20041029
25.41	35.04	20040919	27.18	34.63	20041030
26.48	34.85	20040920	27.19	34.65	20041031
26.73	34.72	20040921	27.18	34.64	20041101
26.74	34.68	20040922	27.18	34.64	20041102

Nov 2004 - Mar 2005

SST	SSS	Y / M / D	SST	SSS	Y / M / D
27.20	34.65	20041103	27.80	34.51	20041214
27.19	34.65	20041104	27.99	34.51	20041215
27.25	34.62	20041105	28.09	34.50	20041216
27.29	34.64	20041106	28.26	34.48	20041217
27.27	34.67	20041107	28.31	34.48	20041218
27.37	34.66	20041108	28.24	34.47	20041219
27.17	34.73	20041109	28.16	34.47	20041220
27.10	34.75	20041110	27.97	34.47	20041221
26.98	34.80	20041111	28.03	34.48	20041222
26.37	34.99	20041112	27.87	34.49	20041223
26.02	35.08	20041113	27.93	34.49	20041224
26.57	34.92	20041114	27.99	34.47	20041225
27.11	34.69	20041115	28.06	34.45	20041226
27.14	34.64	20041116	28.12	34.45	20041227
26.98	34.65	20041117	28.29	34.44	20041228
26.92	34.69	20041118	28.51	34.42	20041229
26.95	34.63	20041119	28.63	34.41	20041230
27.05	34.49	20041120	28.79	34.40	20041231
27.28	34.38	20041121	28.71	34.48	20050101
27.30	34.38	20041122	28.79	34.57	20050102
27.28	34.43	20041123	28.53	34.59	20050103
27.31	34.45	20041124	28.58	34.65	20050104
27.59	34.41	20041125	28.55	34.64	20050105
27.75	34.42	20041126	28.61	34.55	20050106
27.56	34.49	20041127	28.70	34.41	20050107
27.63	34.43	20041128	28.46		20050108
27.54	34.44	20041129	28.45		20050109
27.53	34.43	20041130	28.52		20050110
27.67	34.42	20041201	28.52		20050111
27.76	34.43	20041202	28.27		20050112
27.79	34.43	20041203	28.33		20050113
27.85	34.43	20041204	28.44		20050114
27.84	34.46	20041205	28.47		20050115
27.78	34.52	20041206	28.65		20050116
27.79	34.53	20041207	29.35		20050117
27.73	34.55	20041208	28.64	34.61	20050301
27.75	34.55	20041209	28.74	34.61	20050302
27.75	34.56	20041210	28.96	34.60	20050303
27.71	34.56	20041211	29.10	34.58	20050304
27.66	34.57	20041212	29.16	34.60	20050305
27.69	34.53	20041213	29.15	34.62	20050306

Mar 2005 - May 2005

SST	SSS	Y / M / D	SST	SSS	Y / M / D
29.20	34.66	20050307	28.72	34.41	20050417
29.00	34.67	20050308	28.83	34.30	20050418
29.08	34.69	20050309	28.75	34.31	20050419
29.00	34.71	20050310	28.81	34.28	20050420
28.98	34.73	20050311	28.75	34.24	20050421
29.08	34.73	20050312	28.74	34.21	20050422
29.19	34.72	20050313	28.70	34.24	20050423
28.83	34.78	20050314	28.66	34.22	20050424
29.09	34.75	20050315	28.53	34.29	20050425
29.16	34.74	20050316	28.29	34.42	20050426
29.06	34.71	20050317	28.09	34.48	20050427
29.37	34.66	20050318	27.92	34.49	20050428
29.31	34.65	20050319	27.84	34.52	20050429
29.50	34.60	20050320	27.83	34.50	20050430
29.55	34.63	20050321	27.88	34.50	20050501
29.46	34.67	20050322	27.97	34.49	20050502
29.40	34.71	20050323	28.03	34.51	20050503
29.30	34.72	20050324	28.04	34.55	20050504
29.25	34.75	20050325	28.07	34.55	20050505
29.29	34.75	20050326	28.05	34.57	20050506
29.26	34.75	20050327	28.07	34.60	20050507
29.32	34.75	20050328	28.15	34.58	20050508
29.29	34.75	20050329	28.14	34.58	20050509
29.42	34.73	20050330	28.09	34.58	20050510
29.50	34.71	20050331	28.03	34.60	20050511
29.56	34.63	20050401	28.07	34.61	20050512
29.60	34.60	20050402	28.08	34.61	20050513
29.42	34.66	20050403	28.20	34.59	20050514
29.28	34.67	20050404	28.25	34.60	20050515
29.25	34.67	20050405	28.18	34.59	20050516
29.16	34.67	20050406	28.09	34.61	20050517
29.07	34.69	20050407	28.03	34.61	20050518
29.03	34.70	20050408	27.95	34.60	20050519
28.92	34.72	20050409	27.83	34.62	20050520
28.92	34.70	20050410	27.75	34.62	20050521
28.82	34.70	20050411	27.55	34.67	20050522
28.67	34.68	20050412	27.33	34.73	20050523
28.69	34.63	20050413	27.33	34.69	20050524
28.67	34.55	20050414	27.32	34.64	20050525
28.73	34.53	20050415	27.26	34.67	20050526
28.81	34.42	20050416	27.25	34.64	20050527

May 2005 - Aug 2005

SST	SSS	Y / M / D	SST	SSS	Y / M / D
27.34	34.61	20050528	26.83	34.62	20050708
27.38	34.57	20050529	26.75	34.64	20050709
27.32	34.56	20050530	26.75	34.65	20050710
27.30	34.52	20050531	26.85	34.66	20050711
27.22	34.54	20050601	26.88	34.64	20050712
27.17	34.53	20050602	26.90	34.63	20050713
27.07	34.52	20050603	26.91	34.62	20050714
27.02	34.52	20050604	26.90	34.60	20050715
26.94	34.53	20050605	26.89	34.59	20050716
26.95	34.54	20050606	26.84	34.60	20050717
27.02	34.56	20050607	26.69	34.61	20050718
27.01	34.56	20050608	26.52	34.61	20050719
27.13	34.56	20050609	26.31	34.60	20050720
26.95	34.54	20050610	26.07	34.60	20050721
26.86	34.53	20050611	25.99	34.61	20050722
26.71	34.53	20050612	26.09	34.62	20050723
26.61	34.52	20050613	26.20	34.63	20050724
26.51	34.52	20050614	25.95	34.59	20050725
26.72	34.60	20050615	25.94	34.58	20050726
26.73	34.61	20050616	25.99	34.60	20050727
26.83	34.61	20050617	26.02	34.62	20050728
26.82	34.57	20050618	26.08	34.64	20050729
26.79	34.55	20050619	26.04	34.63	20050730
26.81	34.53	20050620	26.11	34.66	20050731
26.78	34.54	20050621	26.00	34.69	20050801
26.75	34.53	20050622	25.79	34.68	20050802
26.77	34.55	20050623	25.68	34.71	20050803
26.61	34.55	20050624	25.63	34.71	20050804
26.70	34.55	20050625	25.63	34.71	20050805
26.81	34.55	20050626	25.66	34.71	20050806
26.71	34.56	20050627	25.66	34.72	20050807
26.42	34.56	20050628	25.72	34.73	20050808
26.51	34.56	20050629	25.76	34.74	20050809
26.63	34.57	20050630	25.59	34.76	20050810
26.87	34.61	20050701	25.59	34.78	20050811
26.83	34.61	20050702	25.61	34.72	20050812
26.63	34.57	20050703	25.63	34.72	20050813
26.60	34.57	20050704	25.64	34.72	20050814
26.76	34.60	20050705	25.69	34.75	20050815
26.84	34.61	20050706	25.58	34.74	20050816
26.84	34.60	20050707	25.39	34.73	20050817

Aug 2005 - Nov 2005

SST	SSS	Y / M / D	SST	SSS	Y / M / D
25.41	34.73	20050818	25.96	34.73	20050928
25.27	34.75	20050819	25.91	34.71	20050929
25.17	34.76	20050820	26.18	34.70	20050930
25.10	34.74	20050821	25.94	34.72	20051001
25.19	34.72	20050822	26.12	34.70	20051002
25.37	34.73	20050823	25.95	34.73	20051003
25.33	34.70	20050824	25.97	34.78	20051004
25.29	34.71	20050825	25.90	34.79	20051005
25.31	34.71	20050826	25.85	34.79	20051006
25.31	34.68	20050827	25.79	34.80	20051007
25.11	34.65	20050828	25.82	34.79	20051008
25.05	34.66	20050829	25.89	34.79	20051009
25.06	34.68	20050830	26.05	34.77	20051010
25.15	34.72	20050831	26.23	34.76	20051011
25.10	34.76	20050901	26.30	34.76	20051012
25.04	34.77	20050902	26.38	34.69	20051013
25.04	34.77	20050903	26.13	34.72	20051014
25.18	34.74	20050904	26.10	34.77	20051015
25.48	34.73	20050905	26.05	34.77	20051016
25.14	34.73	20050906	26.02	34.77	20051017
25.27	34.71	20050907	26.02	34.76	20051018
25.49	34.71	20050908	26.11	34.78	20051019
25.60	34.74	20050909	26.21	34.78	20051020
25.64	34.70	20050910	26.30	34.78	20051021
25.73	34.68	20050911	26.41	34.78	20051022
25.69	34.70	20050912	26.75	34.80	20051023
25.66	34.72	20050913	26.90	34.81	20051024
25.72	34.73	20050914	27.15	34.68	20051025
25.65	34.73	20050915	26.93	34.60	20051026
25.73	34.73	20050916	27.30	34.47	20051027
26.01	34.68	20050917	27.59	34.41	20051028
26.10	34.65	20050918	27.83	34.37	20051029
25.80	34.69	20050919	27.81	34.40	20051030
25.99	34.68	20050920	27.05	34.60	20051031
26.10	34.67	20050921	27.03	34.59	20051101
26.14	34.65	20050922	26.68	34.66	20051102
26.01	34.68	20050923	26.41	34.70	20051103
25.89	34.71	20050924	26.46	34.73	20051104
25.87	34.73	20050925	26.48	34.77	20051105
25.85	34.74	20050926	26.55	34.76	20051106
25.90	34.73	20050927	26.74	34.74	20051107

Nov 2005 - Jan 2006

SST	SSS	Y / M / D	SST	SSS	Y / M / D
26.88	34.68	20051108	28.18	34.67	20051219
27.33	34.50	20051109	28.12	34.69	20051220
27.21	34.52	20051110	28.11	34.69	20051221
26.96	34.57	20051111	28.10	34.72	20051222
27.16	34.58	20051112	28.13	34.74	20051223
26.92	34.61	20051113	28.17	34.73	20051224
26.48	34.68	20051114	28.07	34.74	20051225
26.78	34.60	20051115	27.98	34.74	20051226
26.69	34.63	20051116	28.05	34.73	20051227
27.13	34.55	20051117	28.25	34.71	20051228
26.98	34.67	20051118	28.30	34.72	20051229
27.26	34.73	20051119	28.43	34.72	20051230
27.42	34.61	20051120	28.32	34.70	20051231
27.40	34.68	20051121	27.73	34.88	20060101
27.52	34.67	20051122	27.75	34.89	20060102
27.54	34.65	20051123	27.67	34.88	20060103
27.61	34.66	20051124	27.63	34.91	20060104
27.76	34.59	20051125	27.48	34.96	20060105
27.80	34.59	20051126	27.41	35.00	20060106
27.75	34.58	20051127	27.79	34.95	20060107
27.83	34.58	20051128	27.69	34.96	20060108
27.89	34.53	20051129	27.60	34.96	20060109
27.73	34.59	20051130	28.13	34.86	20060110
27.92	34.48	20051201	28.28	34.89	20060111
27.73	34.54	20051202	28.31	34.90	20060112
27.73	34.54	20051203	28.42	34.91	20060113
27.58	34.61	20051204	28.27	34.92	20060114
27.60	34.62	20051205	28.21	34.92	20060115
27.61	34.64	20051206	28.07	34.91	20060116
27.69	34.67	20051207	28.30	34.85	20060117
27.72	34.65	20051208	28.21	34.87	20060118
27.73	34.69	20051209	28.51	34.74	20060119
27.81	34.66	20051210	28.43	34.76	20060120
27.91	34.67	20051211	28.59	34.76	20060121
27.98	34.66	20051212	28.59	34.77	20060122
28.13	34.64	20051213	28.71	34.76	20060123
28.06	34.66	20051214	28.71	34.77	20060124
28.01	34.67	20051215	28.71	34.76	20060125
28.05	34.67	20051216	28.42	34.87	20060126
28.08	34.67	20051217	28.30	34.96	20060127
28.11	34.67	20051218	27.99	35.04	20060128

Jan 2006 - Apr 2006

SST	SSS	Y / M / D	SST	SSS	Y / M / D
28.27	35.01	20060129	28.24	35.12	20060311
28.15	35.02	20060130	28.66	35.04	20060312
28.25	34.99	20060131	28.67	34.99	20060313
28.19	34.98	20060201	28.50	34.97	20060314
28.15	34.96	20060202	28.48	34.88	20060315
28.21	34.99	20060203	28.62	34.89	20060316
28.30	34.98	20060204	28.54	34.88	20060317
28.32	34.95	20060205	28.71	34.86	20060318
28.38	34.94	20060206	28.51	34.93	20060319
28.43	34.91	20060207	28.60	34.92	20060320
28.59	34.89	20060208	28.50	34.94	20060321
28.45	34.89	20060209	28.69	34.89	20060322
28.51	34.88	20060210	28.74	34.91	20060323
28.68	34.88	20060211	28.84	34.88	20060324
28.69	34.84	20060212	28.95	34.89	20060325
29.13	34.77	20060213	28.67	34.95	20060326
29.17	34.67	20060214	28.82	34.93	20060327
29.04	34.70	20060215	28.80	34.95	20060328
29.23	34.72	20060216	28.68	34.99	20060329
28.75	34.81	20060217	28.87	34.92	20060330
28.90	34.81	20060218	29.07	34.78	20060331
28.76	34.83	20060219	29.20	34.76	20060401
29.10	34.76	20060220	29.21	34.73	20060402
29.07	34.70	20060221	29.44	34.69	20060403
29.11	34.60	20060222	29.48	34.70	20060404
29.01	34.65	20060223	29.56	34.63	20060405
29.00	34.70	20060224	29.56	34.55	20060406
28.63	35.10	20060225	29.58	34.54	20060407
28.39	35.12	20060226	29.70	34.50	20060408
28.57	35.03	20060227	29.68	34.49	20060409
28.45	35.07	20060228	29.77	34.46	20060410
28.54	35.12	20060301	29.73	34.43	20060411
28.35	35.19	20060302	29.72	34.47	20060412
28.42	35.15	20060303	29.62	34.44	20060413
28.48	35.08	20060304	29.62	34.44	20060414
28.46	35.10	20060305	29.48	34.48	20060415
28.31	35.14	20060306	29.46	34.45	20060416
28.26	35.13	20060307	29.43	34.46	20060417
28.57	35.08	20060308	29.45	34.45	20060418
28.49	35.08	20060309	29.46	34.48	20060419
28.69	35.06	20060310	29.47	34.47	20060420

Apr 2006 - Jul 2006

SST	SSS	Y / M / D	SST	SSS	Y / M / D
29.48	34.48	20060421	27.46	34.94	20060601
29.41	34.45	20060422	27.50	34.89	20060602
29.47	34.47	20060423	27.55	34.85	20060603
29.45	34.46	20060424	27.57	34.86	20060604
29.41	34.44	20060425	27.74	34.81	20060605
29.40	34.47	20060426	27.82	34.74	20060606
29.33	34.49	20060427	27.83	34.68	20060607
29.17	34.50	20060428	27.86	34.70	20060608
29.10	34.51	20060429	27.76	34.75	20060609
29.13	34.52	20060430	27.72	34.81	20060610
29.04	34.61	20060501	27.67	34.83	20060611
28.97	34.54	20060502	27.65	34.82	20060612
28.92	34.42	20060503	27.58	34.79	20060613
28.81	34.63	20060504	27.44	34.77	20060614
28.69	34.74	20060505	27.40	34.74	20060615
28.77	34.76	20060506	27.30	34.76	20060616
28.83	34.80	20060507	27.25	34.74	20060617
28.76	34.82	20060508	27.12	34.76	20060618
28.76	34.80	20060509	26.96	34.80	20060619
28.66	34.81	20060510	26.79	34.83	20060620
28.50	34.84	20060511	26.76	34.85	20060621
28.28	34.90	20060512	26.74	34.78	20060622
28.10	34.91	20060513	26.65	34.79	20060623
28.04	34.90	20060514	26.54	34.82	20060624
27.87	34.93	20060515	26.48	34.79	20060625
27.68	34.95	20060516	26.37	34.79	20060626
27.49	34.97	20060517	26.31	34.76	20060627
27.52	34.96	20060518	26.19	34.78	20060628
27.58	34.94	20060519	26.10	34.76	20060629
27.67	34.92	20060520	26.14	34.78	20060630
27.61	34.91	20060521	26.17	34.79	20060701
27.48	34.95	20060522	26.08	34.79	20060702
27.46	34.95	20060523	26.04	34.82	20060703
27.42	34.99	20060524	26.00	34.81	20060704
27.42	34.99	20060525	25.99	34.81	20060705
27.44	34.98	20060526	26.03	34.83	20060706
27.39	34.99	20060527	25.92	34.78	20060707
27.35	35.01	20060528	25.94	34.77	20060708
27.22	35.04	20060529	26.02	34.76	20060709
27.37	35.02	20060530	26.02	34.75	20060710
27.33	34.95	20060531	26.06	34.77	20060711

Jul 2006 - Oct 2006

SST	SSS	Y / M / D	SST	SSS	Y / M / D
25.98	34.78	20060712	25.85	34.85	20060822
25.91	34.80	20060713	25.49	34.91	20060823
25.85	34.80	20060714	25.42	34.95	20060824
25.76	34.82	20060715	25.51	34.91	20060825
25.76	34.84	20060716	25.46	34.94	20060826
25.75	34.86	20060717	25.56	34.92	20060827
25.80	34.87	20060718	25.61	34.93	20060828
25.81	34.87	20060719	25.88	34.93	20060829
25.85	34.88	20060720	25.88	34.91	20060830
25.84	34.86	20060721	26.11	34.90	20060831
25.75	34.86	20060722	25.86	34.91	20060901
25.74	34.88	20060723	26.00	34.89	20060902
25.87	34.84	20060724	26.35	34.87	20060903
25.98	34.83	20060725	25.87	34.90	20060904
25.96	34.84	20060726	25.68	34.92	20060905
26.12	34.83	20060727	25.70	34.93	20060906
26.01	34.84	20060728	25.88	34.90	20060907
25.94	34.84	20060729	26.19	34.88	20060908
25.84	34.86	20060730	26.26	34.88	20060909
25.80	34.88	20060731	26.32	34.92	20060910
25.81	34.88	20060801	26.26	34.92	20060911
25.85	34.87	20060802	26.23	34.91	20060912
25.85	34.87	20060803	26.12	34.94	20060913
25.79	34.88	20060804	26.17	34.93	20060914
25.79	34.88	20060805	26.31	34.94	20060915
25.72	34.83	20060806	26.52	34.94	20060916
25.58	34.90	20060807	26.76	34.93	20060917
25.39	34.89	20060808	26.91	34.94	20060918
25.34	34.88	20060809	26.87	34.95	20060919
25.22	34.95	20060810	26.83	34.95	20060920
25.15	34.95	20060811	26.85	34.93	20060921
25.28	34.90	20060812	26.83	34.95	20060922
25.36	34.90	20060813	26.82	34.92	20060923
25.62	34.87	20060814	26.81	34.88	20060924
25.96	34.83	20060815	26.71	34.75	20060925
26.13	34.80	20060816	26.55	34.90	20060926
26.06	34.82	20060817	26.68	34.93	20060927
25.90	34.84	20060818	26.74	34.94	20060928
26.00	34.84	20060819	26.82	34.94	20060929
26.19	34.83	20060820	26.82	34.92	20060930
26.09	34.84	20060821	26.78	34.91	20061001

Oct 2006 - Dec 2006

SST	SSS	Y / M / D	SST	SSS	Y / M / D
26.78	34.85	20061002	27.19	34.92	20061112
26.65	34.87	20061003	26.92	34.87	20061113
26.45	34.82	20061004	26.94	34.89	20061114
26.28	34.77	20061005	27.16	34.89	20061115
26.24	34.79	20061006	27.28	34.84	20061116
26.23	34.78	20061007	27.46	34.83	20061117
26.24	34.83	20061008	27.47	34.82	20061118
26.29	34.83	20061009	27.41	34.86	20061119
26.09	34.87	20061010	27.14	34.88	20061120
25.94	34.90	20061011	27.32	34.89	20061121
25.90	34.92	20061012	27.33	34.89	20061122
25.96	34.93	20061013	27.40	34.89	20061123
26.06	34.91	20061014	27.35	34.89	20061124
26.13	34.90	20061015	27.41	34.88	20061125
26.15	34.90	20061016	27.41	34.88	20061126
26.38	34.91	20061017	27.47	34.88	20061127
26.28	34.93	20061018	27.55	34.91	20061128
26.23	34.93	20061019	27.70	34.89	20061129
26.17	34.93	20061020	27.63	34.87	20061130
26.14	34.93	20061021	27.57	34.81	20061201
25.99	34.94	20061022	27.54	34.56	20061202
25.93	34.92	20061023	27.48	34.52	20061203
25.92	34.91	20061024	27.29	34.59	20061204
25.95	34.90	20061025	27.22	34.64	20061205
25.96	34.86	20061026	27.20	34.70	20061206
26.05	34.85	20061027	27.35	34.66	20061207
26.28	34.86	20061028	27.31	34.66	20061208
26.39	34.86	20061029	27.37	34.74	20061209
26.48	34.86	20061030	27.56	34.77	20061210
26.45	34.86	20061031	27.35	34.75	20061211
26.39	34.84	20061101	27.42	34.73	20061212
26.47	34.84	20061102	27.52	34.72	20061213
26.76	34.85	20061103	27.54	34.71	20061214
26.52	34.85	20061104	27.57	34.73	20061215
26.49	34.85	20061105	27.68	34.72	20061216
26.53	34.87	20061106	27.63	34.73	20061217
26.65	34.89	20061107	27.56	34.77	20061218
26.60	34.90	20061108	27.64	34.76	20061219
26.97	34.92	20061109	27.67	34.75	20061220
26.84	34.92	20061110	27.71	34.75	20061221
27.10	34.92	20061111	27.72	34.75	20061222

Dec 2006 - Mar 2007

SST	SSS	Y / M / D	SST	SSS	Y / M / D
27.82	34.74	20061223	28.76	34.77	20070202
27.81	34.78	20061224	28.46	34.78	20070203
27.77	34.78	20061225	28.62	34.75	20070204
27.62	34.85	20061226	28.78	34.75	20070205
27.83	34.83	20061227	28.76	34.69	20070206
27.96	34.77	20061228	28.86	34.68	20070207
28.18	34.76	20061229	29.01	34.67	20070208
28.11	34.81	20061230	28.85	34.65	20070209
28.37	34.70	20061231	28.73	34.62	20070210
28.13	34.76	20070101	28.63	34.60	20070211
28.25	34.75	20070102	28.54	34.65	20070212
27.87	34.81	20070103	28.66	34.66	20070213
27.94	34.76	20070104	28.69	34.67	20070214
27.90	34.76	20070105	28.82	34.60	20070215
27.74	34.78	20070106	28.78	34.58	20070216
27.64	34.79	20070107	28.87	34.63	20070217
28.07	34.78	20070108	28.82	34.63	20070218
27.80	34.85	20070109	28.78	34.67	20070219
27.77	34.89	20070110	28.85	34.64	20070220
27.64	34.90	20070111	28.67	34.68	20070221
28.11	34.84	20070112	28.69	34.65	20070222
28.05	34.83	20070113	28.66	34.66	20070223
28.05	34.83	20070114	28.63	34.66	20070224
28.43	34.74	20070115	28.58	34.68	20070225
28.48	34.71	20070116	28.46	34.73	20070226
28.27	34.73	20070117	28.68	34.67	20070227
28.22	34.71	20070118	28.83	34.63	20070228
28.30	34.68	20070119	28.89	34.63	20070301
28.49	34.66	20070120	28.99	34.57	20070302
28.56	34.64	20070121	28.63	34.72	20070303
28.47	34.60	20070122	28.62	34.66	20070304
28.36	34.65	20070123	28.58	34.57	20070305
28.21	34.67	20070124	28.50	34.62	20070306
28.70	34.50	20070125	28.54	34.60	20070307
28.34	34.66	20070126	28.49	34.61	20070308
28.71	34.55	20070127	28.61	34.57	20070309
29.02	34.56	20070128	28.72	34.56	20070310
28.71	34.70	20070129	28.73	34.46	20070311
28.34	34.77	20070130	28.74	34.40	20070312
28.57	34.75	20070131	28.72	34.40	20070313
28.66	34.76	20070201	28.82	34.47	20070314

Mar 2007 - Jun 2006

SST	SSS	Y / M / D	SST	SSS	Y / M / D
28.81	34.51	20070315	27.97	34.81	20070425
28.79	34.55	20070316	28.07	34.83	20070426
28.90	34.57	20070317	28.02	34.88	20070427
29.01	34.46	20070318	28.05	34.87	20070428
28.97	34.58	20070319	28.03	34.87	20070429
29.00	34.57	20070320	28.11	34.88	20070430
28.93	34.57	20070321	28.09	34.90	20070501
29.00	34.57	20070322	28.15	34.90	20070502
28.81	34.62	20070323	28.19	34.90	20070503
29.00	34.53	20070324	28.17	34.87	20070504
28.94	34.60	20070325	28.24	34.88	20070505
28.95	34.56	20070326	28.00	34.90	20070506
28.96	34.55	20070327	28.03	34.84	20070507
28.81	34.55	20070328	27.89	34.84	20070508
28.78	34.64	20070329	27.83	34.84	20070509
28.82	34.62	20070330	27.81	34.87	20070510
28.83	34.61	20070331	27.83	34.87	20070511
28.85	34.61	20070401	27.80	34.80	20070512
28.77	34.60	20070402	27.74	34.84	20070513
28.71	34.72	20070403	27.66	34.87	20070514
28.75	34.72	20070404	27.63	34.88	20070515
28.64	34.75	20070405	27.59	34.90	20070516
28.89	34.71	20070406	27.53	34.88	20070517
28.90	34.75	20070407	27.44	34.91	20070518
28.95	34.73	20070408	27.37	34.91	20070519
28.95	34.74	20070409	27.42	34.92	20070520
28.93	34.73	20070410	27.43	34.92	20070521
28.78	34.69	20070411	27.48	34.90	20070522
28.65	34.71	20070412	27.51	34.43	20070523
28.40	34.74	20070413	27.53	34.90	20070524
28.39	34.72	20070414	27.40	35.02	20070525
28.26	34.73	20070415	27.35	35.03	20070526
28.15	34.69	20070416	27.43	34.98	20070527
27.96	34.70	20070417	27.49	35.01	20070528
27.97	34.71	20070418	27.57	34.99	20070529
27.94	34.72	20070419	27.60	35.01	20070530
27.90	34.75	20070420	27.64	35.02	20070531
27.96	34.74	20070421	27.71	35.03	20070601
27.95	34.76	20070422	27.73	34.99	20070602
27.86	34.81	20070423	27.69	34.98	20070603
27.93	34.81	20070424	27.69	34.97	20070604

Jun 2007 - Jul 2007

SST	SSS	Y / M / D	SST	SSS	Y / M / D
27.69	34.96	20070605	26.46	34.98	20070716
27.72	34.96	20070606	26.43	34.98	20070717
27.74	34.97	20070607	26.39	34.98	20070718
27.75	34.96	20070608	26.33	34.96	20070719
27.77	34.97	20070609	26.31	34.95	20070720
27.80	34.96	20070610			
27.88	34.93	20070611			
27.84	34.97	20070612			
27.83	34.98	20070613			
27.77	34.99	20070614			
27.73	34.99	20070615			
27.74	34.96	20070616			
27.78	34.95	20070617			
27.88	34.91	20070618			
27.89	34.90	20070619			
27.96	34.93	20070620			
27.98	34.92	20070621			
27.98	34.90	20070622			
27.85	34.90	20070623			
27.61	34.92	20070624			
27.48	34.95	20070625			
27.55	34.90	20070626			
27.30	34.97	20070627			
27.30	34.93	20070628			
27.24	34.94	20070629			
27.17	34.95	20070630			
27.14	34.96	20070701			
27.03	34.96	20070702			
26.92	34.93	20070703			
26.86	34.95	20070704			
26.84	34.96	20070705			
26.81	34.96	20070706			
26.84	34.96	20070707			
26.84	34.98	20070708			
26.82	34.97	20070709			
26.72	34.97	20070710			
26.63	34.99	20070711			
26.58	34.98	20070712			
26.50	34.99	20070713			
26.44	35.00	20070714			
26.45	35.00	20070715			

Appendix III

Coral Sr/Ca data from each sampling path

06SB-A-1a

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1a 1	8.900	06SB-A-1a 42	8.730
06SB-A-1a 2	8.921	06SB-A-1a 43	8.709
06SB-A-1a 3	8.897	06SB-A-1a 44	8.712
06SB-A-1a 4	8.914	06SB-A-1a 45	8.730
06SB-A-1a 5	8.899	06SB-A-1a 46	8.744
06SB-A-1a 6	8.938	06SB-A-1a 47	8.797
06SB-A-1a 7	8.953	06SB-A-1a 48	8.845
06SB-A-1a 8	8.904	06SB-A-1a 49	8.837
06SB-A-1a 9	8.895	06SB-A-1a 50	8.823
06SB-A-1a 10	8.879	06SB-A-1a 51	8.837
06SB-A-1a 11	8.880	06SB-A-1a 52	8.889
06SB-A-1a 12	8.866	06SB-A-1a 53	8.902
06SB-A-1a 13	8.837	06SB-A-1a 54	8.909
06SB-A-1a 14	8.796	06SB-A-1a 55	8.896
06SB-A-1a 15	8.773	06SB-A-1a 56	8.898
06SB-A-1a 16	8.737	06SB-A-1a 57	8.879
06SB-A-1a 17	8.720	06SB-A-1a 58	8.901
06SB-A-1a 18	8.808	06SB-A-1a 59	8.882
06SB-A-1a 19	8.782	06SB-A-1a 60	8.871
06SB-A-1a 20	8.773	06SB-A-1a 61	8.861
06SB-A-1a 21	8.782	06SB-A-1a 62	8.852
06SB-A-1a 22	8.769	06SB-A-1a 63	8.851
06SB-A-1a 23	8.789	06SB-A-1a 64	8.849
06SB-A-1a 24	8.777	06SB-A-1a 65	8.835
06SB-A-1a 25	8.790	06SB-A-1a 66	8.812
06SB-A-1a 26	8.803	06SB-A-1a 67	8.778
06SB-A-1a 27	8.829	06SB-A-1a 68	8.763
06SB-A-1a 28	8.854	06SB-A-1a 69	8.744
06SB-A-1a 29	8.874	06SB-A-1a 70	8.755
06SB-A-1a 30	8.892	06SB-A-1a 71	8.783
06SB-A-1a 31	8.901	06SB-A-1a 72	8.815
06SB-A-1a 32	8.920	06SB-A-1a 73	8.834
06SB-A-1a 33	8.893	06SB-A-1a 74	8.886
06SB-A-1a 34	8.874	06SB-A-1a 75	8.930
06SB-A-1a 35	8.846	06SB-A-1a 76	8.942
06SB-A-1a 36	8.834	06SB-A-1a 77	8.965
06SB-A-1a 37	8.809	06SB-A-1a 78	8.951
06SB-A-1a 38	8.792	06SB-A-1a 79	8.933
06SB-A-1a 39	8.791	06SB-A-1a 80	8.934
06SB-A-1a 40	8.760	06SB-A-1a 81	8.901
06SB-A-1a 41	8.752	06SB-A-1a 82	8.869

06SB-A-1a

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1a 83	8.838	06SB-A-1a 124	8.729
06SB-A-1a 84	8.820	06SB-A-1a 125	8.742
06SB-A-1a 85	8.817	06SB-A-1a 126	8.788
06SB-A-1a 86	8.832	06SB-A-1a 127	8.814
06SB-A-1a 87	8.831	06SB-A-1a 128	8.848
06SB-A-1a 88	8.814	06SB-A-1a 129	8.856
06SB-A-1a 89	8.740	06SB-A-1a 130	8.873
06SB-A-1a 90	8.773	06SB-A-1a 131	8.900
06SB-A-1a 91	8.786	06SB-A-1a 132	8.911
06SB-A-1a 92	8.770	06SB-A-1a 133	8.918
06SB-A-1a 93	8.787	06SB-A-1a 134	8.910
06SB-A-1a 94	8.802	06SB-A-1a 135	8.883
06SB-A-1a 95	8.802	06SB-A-1a 136	8.865
06SB-A-1a 96	8.824	06SB-A-1a 137	8.839
06SB-A-1a 97	8.832	06SB-A-1a 138	8.834
06SB-A-1a 98	8.848	06SB-A-1a 139	8.797
06SB-A-1a 99	8.878	06SB-A-1a 140	8.742
06SB-A-1a 100	8.869	06SB-A-1a 141	8.755
06SB-A-1a 101	8.900	06SB-A-1a 142	8.755
06SB-A-1a 102	8.902	06SB-A-1a 143	8.735
06SB-A-1a 103	8.900	06SB-A-1a 144	8.771
06SB-A-1a 104	8.891	06SB-A-1a 145	8.758
06SB-A-1a 105	8.889	06SB-A-1a 146	8.736
06SB-A-1a 106	8.896	06SB-A-1a 147	8.718
06SB-A-1a 107	8.876	06SB-A-1a 148	8.764
06SB-A-1a 108	8.849	06SB-A-1a 149	8.776
06SB-A-1a 109	8.838	06SB-A-1a 150	8.784
06SB-A-1a 110	8.799	06SB-A-1a 151	8.771
06SB-A-1a 111	8.810	06SB-A-1a 152	8.770
06SB-A-1a 112	8.814	06SB-A-1a 153	8.780
06SB-A-1a 113	8.807	06SB-A-1a 154	8.842
06SB-A-1a 114	8.747	06SB-A-1a 155	8.869
06SB-A-1a 115	8.713	06SB-A-1a 156	8.877
06SB-A-1a 116	8.704	06SB-A-1a 157	8.864
06SB-A-1a 117	8.708	06SB-A-1a 158	8.844
06SB-A-1a 118	8.714	06SB-A-1a 159	8.849
06SB-A-1a 119	8.723	06SB-A-1a 160	8.840
06SB-A-1a 120	8.728	06SB-A-1a 161	8.830
06SB-A-1a 121	8.737	06SB-A-1a 162	8.823
06SB-A-1a 122	8.728	06SB-A-1a 163	8.819
06SB-A-1a 123	8.752	06SB-A-1a 164	8.800

06SB-A-1a

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1a 165	8.760	06SB-A-1a 206	8.859
06SB-A-1a 166	8.726	06SB-A-1a 207	8.887
06SB-A-1a 167	8.740	06SB-A-1a 208	8.892
06SB-A-1a 168	8.751	06SB-A-1a 209	8.909
06SB-A-1a 169	8.758	06SB-A-1a 210	8.898
06SB-A-1a 170	8.751	06SB-A-1a 211	8.929
06SB-A-1a 171	8.726	06SB-A-1a 212	8.906
06SB-A-1a 172	8.732	06SB-A-1a 213	8.848
06SB-A-1a 173	8.704	06SB-A-1a 214	8.845
06SB-A-1a 174	8.711	06SB-A-1a 215	8.837
06SB-A-1a 175	8.745	06SB-A-1a 216	8.842
06SB-A-1a 176	8.729	06SB-A-1a 217	8.848
06SB-A-1a 177	8.753	06SB-A-1a 218	8.798
06SB-A-1a 178	8.797	06SB-A-1a 219	8.796
06SB-A-1a 179	8.839	06SB-A-1a 220	8.806
06SB-A-1a 180	8.855	06SB-A-1a 221	8.822
06SB-A-1a 181	8.865	06SB-A-1a 222	8.854
06SB-A-1a 182	8.865	06SB-A-1a 223	8.864
06SB-A-1a 183	8.892	06SB-A-1a 224	8.842
06SB-A-1a 184	8.882	06SB-A-1a 225	8.848
06SB-A-1a 185	8.843	06SB-A-1a 226	8.872
06SB-A-1a 186	8.813	06SB-A-1a 227	8.887
06SB-A-1a 187	8.803	06SB-A-1a 228	8.914
06SB-A-1a 188	8.797	06SB-A-1a 229	8.924
06SB-A-1a 189	8.796	06SB-A-1a 230	8.935
06SB-A-1a 190	8.773	06SB-A-1a 231	8.957
06SB-A-1a 191	8.788	06SB-A-1a 232	8.943
06SB-A-1a 192	8.769	06SB-A-1a 233	8.927
06SB-A-1a 193	8.744	06SB-A-1a 234	8.931
06SB-A-1a 194	8.761	06SB-A-1a 235	8.899
06SB-A-1a 195	8.754	06SB-A-1a 236	8.907
06SB-A-1a 196	8.801	06SB-A-1a 237	8.892
06SB-A-1a 197	8.808	06SB-A-1a 238	8.886
06SB-A-1a 198	8.781	06SB-A-1a 239	8.872
06SB-A-1a 199	8.746	06SB-A-1a 240	8.849
06SB-A-1a 200	8.733	06SB-A-1a 241	8.834
06SB-A-1a 201	8.761	06SB-A-1a 242	8.803
06SB-A-1a 202	8.788	06SB-A-1a 243	8.821
06SB-A-1a 203	8.804	06SB-A-1a 244	8.809
06SB-A-1a 204	8.823	06SB-A-1a 245	8.836
06SB-A-1a 205	8.834	06SB-A-1a 246	8.832

06SB-A-1a

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1a 247	8.831	06SB-A-1a 288	8.913
06SB-A-1a 248	8.816	06SB-A-1a 289	8.902
06SB-A-1a 249	8.836	06SB-A-1a 290	8.850
06SB-A-1a 250	8.842	06SB-A-1a 291	8.812
06SB-A-1a 251	8.878	06SB-A-1a 292	8.793
06SB-A-1a 252	8.865	06SB-A-1a 293	8.789
06SB-A-1a 253	8.877	06SB-A-1a 294	8.766
06SB-A-1a 254	8.892	06SB-A-1a 295	8.787
06SB-A-1a 255	8.870	06SB-A-1a 296	8.778
06SB-A-1a 256	8.876	06SB-A-1a 297	8.833
06SB-A-1a 257	8.876	06SB-A-1a 298	8.851
06SB-A-1a 258	8.885	06SB-A-1a 299	8.866
06SB-A-1a 259	8.884	06SB-A-1a 300	8.899
06SB-A-1a 260	8.845	06SB-A-1a 301	8.903
06SB-A-1a 261	8.864	06SB-A-1a 302	8.930
06SB-A-1a 262	8.881	06SB-A-1a 303	8.898
06SB-A-1a 263	8.871	06SB-A-1a 304	8.954
06SB-A-1a 264	8.835	06SB-A-1a 305	8.940
06SB-A-1a 265	8.825	06SB-A-1a 306	8.945
06SB-A-1a 266	8.795	06SB-A-1a 307	8.946
06SB-A-1a 267	8.767	06SB-A-1a 308	8.934
06SB-A-1a 268	8.786	06SB-A-1a 309	8.921
06SB-A-1a 269	8.759	06SB-A-1a 310	8.911
06SB-A-1a 270	8.765	06SB-A-1a 311	8.917
06SB-A-1a 271	8.751	06SB-A-1a 312	8.894
06SB-A-1a 272	8.743	06SB-A-1a 313	8.849
06SB-A-1a 273	8.743	06SB-A-1a 314	8.796
06SB-A-1a 274	8.779	06SB-A-1a 315	8.825
06SB-A-1a 275	8.803	06SB-A-1a 316	8.849
06SB-A-1a 276	8.820	06SB-A-1a 317	8.849
06SB-A-1a 277	8.845	06SB-A-1a 318	8.857
06SB-A-1a 278	8.870	06SB-A-1a 319	8.854
06SB-A-1a 279	8.880	06SB-A-1a 320	8.880
06SB-A-1a 280	8.869	06SB-A-1a 321	8.833
06SB-A-1a 281	8.860	06SB-A-1a 322	8.865
06SB-A-1a 282	8.874	06SB-A-1a 323	8.826
06SB-A-1a 283	8.902	06SB-A-1a 324	8.872
06SB-A-1a 284	8.908	06SB-A-1a 325	8.900
06SB-A-1a 285	8.903	06SB-A-1a 326	8.926
06SB-A-1a 286	8.889	06SB-A-1a 327	8.921
06SB-A-1a 287	8.878	06SB-A-1a 328	8.917

06SB-A-1a

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1a 329	8.965	06SB-A-1a 370	8.897
06SB-A-1a 330	9.003	06SB-A-1a 371	8.890
06SB-A-1a 331	8.963	06SB-A-1a 372	8.900
06SB-A-1a 332	8.948	06SB-A-1a 373	8.886
06SB-A-1a 333	8.964	06SB-A-1a 374	8.868
06SB-A-1a 334	8.984	06SB-A-1a 375	8.915
06SB-A-1a 335	8.946	06SB-A-1a 376	8.912
06SB-A-1a 336	8.980	06SB-A-1a 377	8.888
06SB-A-1a 337	8.939	06SB-A-1a 378	8.903
06SB-A-1a 338	8.918	06SB-A-1a 379	8.865
06SB-A-1a 339	8.903	06SB-A-1a 380	8.864
06SB-A-1a 340	8.899	06SB-A-1a 381	8.845
06SB-A-1a 341	8.876	06SB-A-1a 382	8.822
06SB-A-1a 342	8.872	06SB-A-1a 383	8.853
06SB-A-1a 343	8.872	06SB-A-1a 384	8.885
06SB-A-1a 344	8.873	06SB-A-1a 385	8.931
06SB-A-1a 345	8.827	06SB-A-1a 386	8.895
06SB-A-1a 346	8.880	06SB-A-1a 387	8.934
06SB-A-1a 347	8.858	06SB-A-1a 388	8.953
06SB-A-1a 348	8.835	06SB-A-1a 389	8.917
06SB-A-1a 349	8.825	06SB-A-1a 390	8.960
06SB-A-1a 350	8.817	06SB-A-1a 391	8.920
06SB-A-1a 351	8.817	06SB-A-1a 392	8.920
06SB-A-1a 352	8.838	06SB-A-1a 393	8.919
06SB-A-1a 353	8.814	06SB-A-1a 394	8.902
06SB-A-1a 354	8.861	06SB-A-1a 395	8.897
06SB-A-1a 355	8.862	06SB-A-1a 396	8.866
06SB-A-1a 356	8.900	06SB-A-1a 397	8.871
06SB-A-1a 357	8.937	06SB-A-1a 398	8.861
06SB-A-1a 358	8.914	06SB-A-1a 399	8.824
06SB-A-1a 359	8.924	06SB-A-1a 400	8.801
06SB-A-1a 360	8.910	06SB-A-1a 401	8.833
06SB-A-1a 361	8.943	06SB-A-1a 402	8.795
06SB-A-1a 362	8.928	06SB-A-1a 403	8.798
06SB-A-1a 363	8.928	06SB-A-1a 404	8.794
06SB-A-1a 364	8.959	06SB-A-1a 405	8.827
06SB-A-1a 365	8.965	06SB-A-1a 406	8.783
06SB-A-1a 366	8.945	06SB-A-1a 407	8.803
06SB-A-1a 367	8.946	06SB-A-1a 408	8.803
06SB-A-1a 368	8.921	06SB-A-1a 409	8.837
06SB-A-1a 369	8.930	06SB-A-1a 410	8.814

06SB-A-1a

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1a 411	8.782	06SB-A-1a 452	8.866
06SB-A-1a 412	8.815	06SB-A-1a 453	8.863
06SB-A-1a 413	8.854	06SB-A-1a 454	8.858
06SB-A-1a 414	8.863	06SB-A-1a 455	8.817
06SB-A-1a 415	8.881	06SB-A-1a 456	8.814
06SB-A-1a 416	8.903	06SB-A-1a 457	8.794
06SB-A-1a 417	8.907	06SB-A-1a 458	8.802
06SB-A-1a 418	8.896	06SB-A-1a 459	8.837
06SB-A-1a 419	8.893	06SB-A-1a 460	8.823
06SB-A-1a 420	8.873	06SB-A-1a 461	8.824
06SB-A-1a 421	8.851	06SB-A-1a 462	8.826
06SB-A-1a 422	8.837	06SB-A-1a 463	8.799
06SB-A-1a 423	8.870	06SB-A-1a 464	8.788
06SB-A-1a 424	8.832	06SB-A-1a 465	8.780
06SB-A-1a 425	8.840	06SB-A-1a 466	8.795
06SB-A-1a 426	8.766	06SB-A-1a 467	8.807
06SB-A-1a 427	8.794	06SB-A-1a 468	8.862
06SB-A-1a 428	8.782	06SB-A-1a 469	8.879
06SB-A-1a 429	8.771	06SB-A-1a 470	8.898
06SB-A-1a 430	8.769	06SB-A-1a 471	8.864
06SB-A-1a 431	8.777	06SB-A-1a 472	8.867
06SB-A-1a 432	8.739	06SB-A-1a 473	8.867
06SB-A-1a 433	8.760	06SB-A-1a 474	8.870
06SB-A-1a 434	8.705	06SB-A-1a 475	8.854
06SB-A-1a 435	8.756	06SB-A-1a 476	8.892
06SB-A-1a 436	8.714	06SB-A-1a 477	8.856
06SB-A-1a 437	8.762	06SB-A-1a 478	8.839
06SB-A-1a 438	8.750	06SB-A-1a 479	8.818
06SB-A-1a 439	8.746	06SB-A-1a 480	8.839
06SB-A-1a 440	8.741	06SB-A-1a 481	8.875
06SB-A-1a 441	8.766	06SB-A-1a 482	8.882
06SB-A-1a 442	8.795	06SB-A-1a 483	8.834
06SB-A-1a 443	8.822	06SB-A-1a 484	8.833
06SB-A-1a 444	8.843	06SB-A-1a 485	8.812
06SB-A-1a 445	8.875	06SB-A-1a 486	8.811
06SB-A-1a 446	8.843	06SB-A-1a 487	8.822
06SB-A-1a 447	8.907	06SB-A-1a 488	8.825
06SB-A-1a 448	8.856	06SB-A-1a 489	8.885
06SB-A-1a 449	8.870	06SB-A-1a 490	8.979
06SB-A-1a 450	8.860	06SB-A-1a 491	9.006
06SB-A-1a 451	8.861	06SB-A-1a 492	8.968

06SB-A-1a

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1a 493	8.971	06SB-A-1a 534	8.727
06SB-A-1a 494	8.964	06SB-A-1a 535	8.760
06SB-A-1a 495	8.959	06SB-A-1a 536	8.753
06SB-A-1a 496	8.895	06SB-A-1a 537	8.811
06SB-A-1a 497	8.916	06SB-A-1a 538	8.823
06SB-A-1a 498	8.906	06SB-A-1a 539	8.837
06SB-A-1a 499	8.889	06SB-A-1a 540	8.859
06SB-A-1a 500	8.899	06SB-A-1a 541	8.890
06SB-A-1a 501	8.909	06SB-A-1a 542	8.886
06SB-A-1a 502	8.888	06SB-A-1a 543	8.884
06SB-A-1a 503	8.847	06SB-A-1a 544	8.864
06SB-A-1a 504	8.802	06SB-A-1a 545	8.865
06SB-A-1a 505	8.794	06SB-A-1a 546	8.892
06SB-A-1a 506	8.816	06SB-A-1a 547	8.881
06SB-A-1a 507	8.826	06SB-A-1a 548	8.869
06SB-A-1a 508	8.791	06SB-A-1a 549	8.862
06SB-A-1a 509	8.810	06SB-A-1a 550	8.841
06SB-A-1a 510	8.824	06SB-A-1a 551	8.796
06SB-A-1a 511	8.822	06SB-A-1a 552	8.773
06SB-A-1a 512	8.860	06SB-A-1a 553	8.787
06SB-A-1a 513	8.856	06SB-A-1a 554	8.769
06SB-A-1a 514	8.891	06SB-A-1a 555	8.739
06SB-A-1a 515	8.900	06SB-A-1a 556	8.757
06SB-A-1a 516	8.928	06SB-A-1a 557	8.747
06SB-A-1a 517	8.953	06SB-A-1a 558	8.752
06SB-A-1a 518	8.927	06SB-A-1a 559	8.761
06SB-A-1a 519	8.937	06SB-A-1a 560	8.779
06SB-A-1a 520	8.919	06SB-A-1a 561	8.774
06SB-A-1a 521	8.909	06SB-A-1a 562	8.810
06SB-A-1a 522	8.899	06SB-A-1a 563	8.835
06SB-A-1a 523	8.861	06SB-A-1a 564	8.840
06SB-A-1a 524	8.839	06SB-A-1a 565	8.868
06SB-A-1a 525	8.824	06SB-A-1a 566	8.860
06SB-A-1a 526	8.786	06SB-A-1a 567	8.861
06SB-A-1a 527	8.750	06SB-A-1a 568	8.858
06SB-A-1a 528	8.721	06SB-A-1a 569	8.861
06SB-A-1a 529	8.748	06SB-A-1a 570	8.881
06SB-A-1a 530	8.720	06SBA1b-1 n1	8.947
06SB-A-1a 531	8.718	06SBA1b-1 n2	8.899
06SB-A-1a 532	8.729	06SBA1b-1 n3	8.841
06SB-A-1a 533	8.702	06SBA1b-1 n4	8.799

06SB-A-1a

Sample Name	Sr/Ca (mMol/Mol)
06SBA1b-1 n5	8.740
06SBA1b-1 n6	8.784
06SBA1b-1 n7	8.783
06SBA1b-1 n8	8.797
06SBA1b-1 n9	8.788
06SBA1b-1 n10	8.920
06SBA1b-1 n11	8.911
06SBA1b-1 n12	8.921
06SBA1b-1 n13	8.966
06SBA1b-1 n14	8.951
06SBA1b-1 n15	8.915

O6SB-A-1b-2

Sample Name	Sr/Ca (mMol/Mol)
06SBA1b-2 n1	8.887
06SBA1b-2 n2	8.819
06SBA1b-2 n3	8.768
06SBA1b-2 n4	8.771
06SBA1b-2 n5	8.766
06SBA1b-2 n6	8.813
06SBA1b-2 n7	8.818
06SBA1b-2 n8	8.897
06SBA1b-2 n9	8.921
06SBA1b-2 n10	8.954
06SBA1b-2 n11	8.967
06SBA1b-2 n12	8.986
06SBA1b-2 n13	8.940
06SBA1b-2 n14	8.936
06SBA1b-2 n15	8.812
06SBA1b-2 n16	8.803
06SBA1b-2 n17	8.809
06SBA1b-2 n18	8.830
06SBA1b-2 n19	8.836
06SBA1b-2 n20	8.865
06SBA1b-2 n21	8.936
06SBA1b-2 n22	8.970
06SBA1b-2 n23	9.020
06SBA1b-2 n24	9.015
06SBA1b-2 n25	8.952
06SBA1b-2 n26	8.873
06SBA1b-2 n27	8.855
06SBA1b-2 n28	8.868
06SBA1b-2 n29	8.829
06SBA1b-2 n30	8.845
06SBA1b-2 n31	8.925
06SBA1b-2 n32	8.795
06SBA1b-2 n33	9.043
06SBA1b-2 n34	9.036
06SBA1b-2 n35	9.009
06SBA1b-2 n36	9.027
06SBA1b-2 n37	8.934
06SBA1b-2 n38	8.914
06SBA1b-2 n39	8.873
06SBA1b-2 n40	8.809
06SBA1b-2 n41	8.821
06SBA1b-2 n42	8.807
06SBA1b-2 n43	8.822
06SBA1b-2 n44	8.847
06SBA1b-2 n45	8.862
06SBA1b-2 n46	8.897
06SBA1b-2 n47	8.987
06SBA1b-2 n48	8.976
06SBA1b-2 n49	8.983
06SBA1b-2 n50	8.953
06SBA1b-2 n51	8.921
06SBA1b-2 n52	8.831
06SBA1b-2 n53	8.833
06SBA1b-2 n54	8.838
06SBA1b-2 n55	8.844
06SBA1b-2 n56	8.866
06SBA1b-2 n57	8.865
06SBA1b-2 n58	8.874
06SBA1b-2 n59	8.912
06SBA1b-2 n60	8.960
06SBA1b-2 n61	9.003
06SBA1b-2 n62	8.955
06SBA1b-2 n63	8.924
06SBA1b-2 n64	8.905
06SBA1b-2 n65	8.831
06SBA1b-2 n66	8.855
06SBA1b-2 n67	8.918
06SBA1b-2 n68	8.889
06SBA1b-2 n69	8.890

06SB-A-1b-2

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SBA1b-2 n70	8.917	06SB-a-1b-2 n111	8.903
06SBA1b-2 n71	8.935	06SB-a-1b-2 n112	8.845
06SBA1b-2 n72	8.955	06SB-a-1b-2 n113	8.861
06SBA1b-2 n73	8.979	06SB-a-1b-2 n114	8.865
06SBA1b-2 n74	8.936	06SB-a-1b-2 n115	8.797
06SBA1b-2 n75	8.900	06SB-a-1b-2 n116	8.799
06SBA1b-2 n76	8.891	06SB-a-1b-2 n117	8.860
06SBA1b-2 n77	8.854	06SB-a-1b-2 n118	8.834
06SBA1b-2 n78	8.812	06SB-a-1b-2 n119	8.795
06SBA1b-2 n79	8.808	06SB-a-1b-2 n120	8.781
06SBA1b-2 n80	8.803	06SB-a-1b-2 n121	8.908
06SBA1b-2 n81	8.844	06SB-a-1b-2 n122	8.900
06SBA1b-2 n82	8.910	06SB-a-1b-2 n123	8.896
06SBA1b-2 n83	8.962	06SB-a-1b-2 n124	8.899
06SBA1b-2 n84	8.957	06SB-a-1b-2 n125	8.863
06SBA1b-2 n85	8.969	06SB-a-1b-2 n126	8.859
06SB-a-1b-2 n86	8.866	06SB-a-1b-2 n127	8.834
06SB-a-1b-2 n87	8.900	06SB-a-1b-2 n128	8.799
06SB-a-1b-2 n88	8.881	06SB-a-1b-2 n129	8.774
06SB-a-1b-2 n89	8.838	06SB-a-1b-2 n130	8.807
06SB-a-1b-2 n90	8.767	06SB-a-1b-2 n131	8.755
06SB-a-1b-2 n91	8.788	06SB-a-1b-2 n132	8.755
06SB-a-1b-2 n92	8.813	06SB-a-1b-2 n133	8.759
06SB-a-1b-2 n93	8.871	06SB-a-1b-2 n134	8.795
06SB-a-1b-2 n94	8.838	06SB-a-1b-2 n135	8.813
06SB-a-1b-2 n95	8.844	06SB-a-1b-2 n136	8.880
06SB-a-1b-2 n96	8.874	06SB-a-1b-2 n137	8.883
06SB-a-1b-2 n97	8.900	06SB-a-1b-2 n138	8.917
06SB-a-1b-2 n98	8.884	06SB-a-1b-2 n139	8.909
06SB-a-1b-2 n99	8.857	06SB-a-1b-2 n140	8.871
06SB-a-1b-2 n100	8.835	06SB-a-1b-2 n141	8.879
06SB-a-1b-2 n101	8.825	06SB-a-1b-2 n142	8.875
06SB-a-1b-2 n102	8.775	06SB-a-1b-2 n143	8.909
06SB-a-1b-2 n103	8.783	06SB-a-1b-2 n144	8.927
06SB-a-1b-2 n104	8.780	06SB-a-1b-2 n145	8.889
06SB-a-1b-2 n105	8.834	06SB-a-1b-2 n146	8.958
06SB-a-1b-2 n106	8.786	06SB-a-1b-2 n147	8.939
06SB-a-1b-2 n107	8.770	06SB-a-1b-2 n148	8.915
06SB-a-1b-2 n108	8.827	06SB-a-1b-2 n149	8.899
06SB-a-1b-2 n109	8.895	06SB-a-1b-2 n150	8.868
06SB-a-1b-2 n110	8.930	06SB-a-1b-2 n151	8.879

06SB-A-1b-2

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-a-1b-2 n152	8.868	06SB-A-1b-2 n193	8.959
06SB-a-1b-2 n153	8.898	06SB-A-1b-2 n194	8.918
06SB-a-1b-2 n154	8.838	06SB-A-1b-2 n195	8.906
06SB-a-1b-2 n155	8.840	06SB-A-1b-2 n196	8.873
06SB-a-1b-2 n156	8.894	06SB-A-1b-2 n197	8.862
06SB-a-1b-2 n157	8.912	06SB-A-1b-2 n198	8.795
06SB-a-1b-2 n158	8.882	06SB-A-1b-2 n199	8.804
06SB-a-1b-2 n159	8.902	06SB-A-1b-2 n200	8.901
06SB-a-1b-2 n160	8.853	06SB-A-1b-2 n201	8.920
06SB-a-1b-2 n161	8.821	06SB-A-1b-2 n202	8.927
06SB-a-1b-2 n162	8.871	06SB-A-1b-2 n203	8.950
06SB-a-1b-2 n163	8.911	06SB-A-1b-2 n204	8.900
06SB-a-1b-2 n164	8.863	06SB-A-1b-2 n205	8.930
06SB-a-1b-2 n165	8.865	06SB-A-1b-2 n206	8.908
06SB-a-1b-2 n166	8.810	06SB-A-1b-2 n207	8.844
06SB-a-1b-2 n167	8.896	06SB-A-1b-2 n208	8.858
06SB-a-1b-2 n168	8.915	06SB-A-1b-2 n209	8.883
06SB-a-1b-2 n169	8.948	06SB-A-1b-2 n210	8.912
06SB-a-1b-2 n170	8.963	06SB-A-1b-2 n211	8.890
06SB-a-1b-2 n171	8.931	06SB-A-1b-2 n212	8.975
06SB-a-1b-2 n172	8.933	06SB-A-1b-2 n213	8.930
06SB-a-1b-2 n173	8.868	06SB-A-1b-2 n214	8.941
06SB-a-1b-2 n174	8.861	06SB-A-1b-2 n215	8.984
06SB-a-1b-2 n175	8.876	06SB-A-1b-2 n216	8.970
06SB-a-1b-2 n176	8.870	06SB-A-1b-2 n217	8.945
06SB-a-1b-2 n177	8.890	06SB-A-1b-2 n218	8.939
06SB-a-1b-2 n178	8.935	06SB-A-1b-2 n219	8.907
06SB-a-1b-2 n179	8.937	06SB-A-1b-2 n220	8.830
06SB-a-1b-2 n180	8.967	06SB-A-1b-2 n221	8.887
06SB-a-1b-2 n181	8.965	06SB-A-1b-2 n222	8.986
06SB-a-1b-2 n182	8.916	06SB-A-1b-2 n223	9.037
06SB-a-1b-2 n183	8.860	06SB-A-1b-2 n224	8.998
06SB-a-1b-2 n184	8.898	06SB-A-1b-2 n225	8.985
06SB-a-1b-2 n185	8.844	06SB-A-1b-2 n226	9.000
06SB-A-1b-2 n186	8.902	06SB-A-1b-2 n227	8.944
06SB-A-1b-2 n187	8.833	06SB-A-1b-2 n228	8.898
06SB-A-1b-2 n188	8.886	06SB-A-1b-2 n229	8.851
06SB-A-1b-2 n189	8.924	06SB-A-1b-2 n230	8.799
06SB-A-1b-2 n190	8.948	06SB-A-1b-2 n231	8.822
06SB-A-1b-2 n191	8.965	06SB-A-1b-2 n232	8.796
06SB-A-1b-2 n192	8.964	06SB-A-1b-2 n233	8.857

06SB-A-1b-2

Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1b-2 n234	8.868
06SB-A-1b-2 n235	8.893
06SB-A-1b-2 n236	8.844
06SB-A-1b-2 n237	8.956
06SB-A-1b-2 n238	8.898
06SB-A-1b-2 n239	8.786
06SB-A-1b-2 n240	8.838
06SB-A-1b-2 n241	8.867
06SB-A-1b-2 n242	8.866
06SB-A-1b-2 n243	8.824
06SB-A-1b-2 n244	8.843
06SB-A-1b-2 n245	8.910
06SB-A-1b-2 n246	8.924
06SB-A-1b-2 n247	8.934
06SB-A-1b-2 n248	8.937
06SB-A-1b-2 n249	8.923

06SB-A-1c-1

Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1c-1 n1	8.880
06SB-A-1c-1 n2	8.785
06SB-A-1c-1 n3	8.770
06SB-A-1c-1 n4	8.821
06SB-A-1c-1 n5	8.817
06SB-A-1c-1 n6	8.851
06SB-A-1c-1 n7	8.882
06SB-A-1c-1 n8	8.869
06SB-A-1c-1 n9	8.898
06SB-A-1c-1 n10	8.915
06SB-A-1c-1 n11	8.895
06SB-A-1c-1 n12	8.807
06SB-A-1c-1 n13	8.790
06SB-A-1c-1 n14	8.795
06SB-A-1c-1 n15	8.819
06SB-A-1c-1 n16	8.857
06SB-A-1c-1 n17	8.909
06SB-A-1c-1 n18	8.905
06SB-A-1c-1 n19	8.920
06SB-A-1c-1 n20	8.936
06SB-A-1c-1 n21	8.938
06SB-A-1c-1 n22	8.877
06SB-A-1c-1 n23	8.870
06SB-A-1c-1 n24	8.831
06SB-A-1c-1 n25	8.843
06SB-A-1c-1 n26	8.874
06SB-A-1c-1 n27	8.892
06SB-A-1c-1 n28	8.884
06SB-A-1c-1 n29	8.886
06SB-A-1c-1 n30	8.895
06SB-A-1c-1 n31	8.936
06SB-A-1c-1 n32	8.951
06SB-A-1c-1 n33	8.934
06SB-A-1c-1 n34	8.949
06SB-A-1c-1 n35	8.882
06SB-A-1c-1 n36	8.838
06SB-A-1c-1 n37	8.872
06SB-A-1c-1 n38	8.893
06SB-A-1c-1 n39	8.914
06SB-A-1c-1 n40	8.920
06SB-A-1c-1 n41	8.875
06SB-A-1c-1 n42	8.943
06SB-A-1c-1 n43	8.961
06SB-A-1c-1 n44	9.037
06SB-A-1c-1 n45	8.969
06SB-A-1c-1 n46	8.959
06SB-A-1c-1 n47	9.010
06SB-A-1c-1 n48	8.937
06SB-A-1c-1 n49	8.869
06SB-A-1c-1 n50	8.868
06SB-A-1c-1 n51	8.868
06SB-A-1c-1 n52	8.900
06SB-A-1c-1 n53	8.929
06SB-A-1c-1 n54	8.964
06SB-A-1c-1 n55	8.973
06SB-A-1c-1 n56	8.976
06SB-A-1c-1 n57	8.965
06SB-A-1c-1 n58	8.914
06SB-A-1c-1 n59	
06SB-A-1c-1 n60	8.971
06SB-A-1c-1 n61	8.911
06SB-A-1c-1 n62	8.896
06SB-A-1c-1 n63	8.855
06SB-A-1c-1 n64	8.852

06SB-A-1c-1

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1c-1 n65	8.822	06SB-A-1c-1 n106	8.866
06SB-A-1c-1 n66	8.860	06SB-A-1c-1 n107	8.848
06SB-A-1c-1 n67	8.883	06SB-A-1c-1 n108	8.837
06SB-A-1c-1 n68	8.897	06SB-A-1c-1 n109	8.897
06SB-A-1c-1 n69	8.925	06SB-A-1c-1 n110	8.880
06SB-A-1c-1 n70	8.935	06SB-A-1c-1 n111	8.913
06SB-A-1c-1 n71	8.967	06SB-A-1c-1 n112	8.980
06SB-A-1c-1 n72	8.983	06SB-A-1c-1 n113	8.942
06SB-A-1c-1 n73	8.927	06SB-A-1c-1 n114	8.889
06SB-A-1c-1 n74	8.877	06SB-A-1c-1 n115	8.987
06SB-A-1c-1 n75	8.825	06SB-A-1c-1 n116	8.875
06SB-A-1c-1 n76	8.822	06SB-A-1c-1 n117	8.900
06SB-A-1c-1 n77	8.795	06SB-A-1c-1 n118	8.954
06SB-A-1c-1 n78	8.809	06SB-A-1c-1 n119	8.847
06SB-A-1c-1 n79	8.889	06SB-A-1c-1 n120	8.893
06SB-A-1c-1 n80	8.899	06SB-A-1c-1 n121	8.912
06SB-A-1c-1 n81	8.907	06SB-A-1c-1 n122	8.928
06SB-A-1c-1 n82	8.906	06SB-A-1c-1 n123	8.994
06SB-A-1c-1 n83	8.843	06SB-A-1c-1 n124	8.931
06SB-A-1c-1 n84	8.796	06SB-A-1c-1 n125	8.963
06SB-A-1c-1 n85	8.808	06SB-A-1c-1 n126	8.974
06SB-A-1c-1 n86	8.767	06SB-A-1c-1 n127	8.987
06SB-A-1c-1 n87	8.837	06SB-A-1c-1 n128	8.948
06SB-A-1c-1 n88	8.840	06SB-A-1c-1 n129	8.912
06SB-A-1c-1 n89	8.867	06SB-A-1c-1 n130	8.892
06SB-A-1c-1 n90	8.857	06SB-A-1c-1 n131	8.842
06SB-A-1c-1 n91	8.837	06SB-A-1c-1 n132	8.828
06SB-A-1c-1 n92	8.939	06SB-A-1c-1 n133	8.862
06SB-A-1c-1 n93	8.890	06SB-A-1c-1 n134	8.881
06SB-A-1c-1 n94	8.893	06SB-A-1c-1 n135	8.924
06SB-A-1c-1 n95	8.893	06SB-A-1c-1 n136	8.868
06SB-A-1c-1 n96	8.824	06SB-A-1c-1 n137	8.925
06SB-A-1c-1 n97	8.858	06SB-A-1c-1 n138	8.905
06SB-A-1c-1 n98	8.912	06SB-A-1c-1 n139	8.888
06SB-A-1c-1 n99	8.960	06SB-A-1c-1 n140	8.877
06SB-A-1c-1 n100	8.856	06SB-A-1c-1 n141	8.881
06SB-A-1c-1 n101	8.841	06SB-A-1c-1 n142	8.802
06SB-A-1c-1 n102	8.919	06SB-A-1c-1 n143	8.813
06SB-A-1c-1 n103	8.968	06SB-A-1c-1 n144	8.832
06SB-A-1c-1 n104	8.903	06SB-A-1c-1 n145	8.844
06SB-A-1c-1 n105	8.876	06SB-A-1c-1 n146	8.855

06SB-A-1c-1

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1c-1 n147	8.868	06SB-A-1c-1 n188	8.901
06SB-A-1c-1 n148	8.922	06SB-A-1c-1 n189	8.855
06SB-A-1c-1 n149	8.949	06SB-A-1c-1 n190	8.840
06SB-A-1c-1 n150	8.911	06SB-A-1c-1 n191	8.790
06SB-A-1c-1 n151	8.900	06SB-A-1c-1 n192	8.812
06SB-A-1c-1 n152	8.881	06SB-A-1c-1 n193	8.805
06SB-A-1c-1 n153	8.856	06SB-A-1c-1 n194	8.798
06SB-A-1c-1 n154	8.811	06SB-A-1c-1 n195	8.810
06SB-A-1c-1 n155	8.774	06SB-A-1c-1 n196	8.825
06SB-A-1c-1 n156	8.791	06SB-A-1c-1 n197	8.874
06SB-A-1c-1 n157	8.826	06SB-A-1c-1 n198	8.889
06SB-A-1c-1 n158	8.830	06SB-A-1c-1 n199	8.918
06SB-A-1c-1 n159	8.858	06SB-A-1c-1 n200	8.945
06SB-A-1c-1 n160	8.910	06SB-A-1c-1 n201	8.946
06SB-A-1c-1 n161	8.895	06SB-A-1c-1 n202	8.908
06SB-A-1c-1 n162	8.911	06SB-A-1c-1 n203	8.848
06SB-A-1c-1 n163	8.948	06SB-A-1c-1 n204	
06SB-A-1c-1 n164	8.894	06SB-A-1c-1 n205	8.853
06SB-A-1c-1 n165	8.880	06SB-A-1c-1 n206	8.803
06SB-A-1c-1 n166	8.836	06SB-A-1c-1 n207	8.876
06SB-A-1c-1 n167	8.833	06SB-A-1c-1 n208	8.937
06SB-A-1c-1 n168	8.849	06SB-A-1c-1 n209	8.978
06SB-A-1c-1 n169	8.840	06SB-A-1c-1 n210	8.964
06SB-A-1c-1 n170	8.795	06SB-A-1c-1 n211	8.930
06SB-A-1c-1 n171	8.789	06SB-A-1c-1 n212	8.926
06SB-A-1c-1 n172	8.882	06SB-A-1c-1 n213	8.912
06SB-A-1c-1 n173	8.887	06SB-A-1c-1 n214	8.923
06SB-A-1c-1 n174	8.920	06SB-A-1c-1 n215	8.897
06SB-A-1c-1 n175	8.930	06SB-A-1c-1 n216	8.868
06SB-A-1c-1 n176	8.901		
06SB-A-1c-1 n177	8.865	**06SB-A-1c-2**	
06SB-A-1c-1 n178	8.832	06SB-A1c-2 n1	8.859
06SB-A-1c-1 n179	8.810	06SB-A1c-2 n2	8.950
06SB-A-1c-1 n180	8.795	06SB-A1c-2 n3	8.942
06SB-A-1c-1 n181	8.809	06SB-A1c-2 n4	8.959
06SB-A-1c-1 n182	8.787	06SB-A1c-2 n5	8.929
06SB-A-1c-1 n183		06SB-A1c-2 n6	8.944
06SB-A-1c-1 n184	8.915	06SB-A1c-2 n7	8.952
06SB-A-1c-1 n185	8.940	06SB-A1c-2 n8	8.913
06SB-A-1c-1 n186	8.923	06SB-A1c-2 n9	8.848
06SB-A-1c-1 n187	8.928	06SB-A1c-2 n10	8.813

06SB-A-1c-2

Sample Name	Sr/Ca (mMol/Mol)
06SB-A1c-2 n11	8.826
06SB-A1c-2 n12	8.878
06SB-A1c-2 n13	8.840
06SB-A1c-2 n14	8.846
06SB-A1c-2 n15	8.860
06SB-A1c-2 n16	8.884
06SB-A1c-2 n17	8.911
06SB-A1c-2 n18	8.915
06SB-A1c-2 n19	8.943
06SB-A1c-2 n20	8.908
06SB-A-1c-2 n21	8.895
06SB-A-1c-2 n22	8.882
06SB-A-1c-2 n23	8.849
06SB-A-1c-2 n24	8.824
06SB-A-1c-2 n25	8.808
06SB-A-1c-2 n26	8.817
06SB-A-1c-2 n27	8.819
06SB-A-1c-2 n28	8.856
06SB-A-1c-2 n29	8.814
06SB-A-1c-2 n30	8.870
06SB-A-1c-2 n31	8.924
06SB-A-1c-2 n32	8.960
06SB-A-1c-2 n33	8.964
06SB-A-1c-2 n34	8.897
06SB-A-1c-2 n35	8.943
06SB-A-1c-2 n36	8.884
06SB-A-1c-2 n37	8.838
06SB-A-1c-2 n38	8.857
06SB-A-1c-2 n39	8.841
06SB-A-1c-2 n40	8.838
06SB-A-1c-2 n41	8.867
06SB-A-1c-2 n42	8.920
06SB-A-1c-2 n43	8.969
06SB-A-1c-2 n44	8.994
06SB-A-1c-2 n45	9.012
06SB-A-1c-2 n46	8.974
06SB-A-1c-2 n47	8.945
06SB-A-1c-2 n48	8.877
06SB-A-1c-2 n49	8.828
06SB-A-1c-2 n50	8.821
06SB-A-1c-2 n51	8.848
06SB-A-1c-2 n52	8.869
06SB-A-1c-2 n53	8.879
06SB-A-1c-2 n54	8.941
06SB-A-1c-2 n55	8.988
06SB-A-1c-2 n56	8.985
06SB-A-1c-2 n57	8.957
06SB-A-1c-2 n58	8.939
06SB-A-1c-2 n59	8.893
06SB-A-1c-2 n60	8.883

06SB-A-1d-1

Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1d-1 n1	8.982
06SB-A-1d-1 n2	8.950
06SB-A-1d-1 n3	8.921
06SB-A-1d-1 n4	8.900
06SB-A-1d-1 n5	8.788
06SB-A-1d-1 n6	8.826
06SB-A-1d-1 n7	8.832
06SB-A-1d-1 n8	8.882
06SB-A-1d-1 n9	8.909
06SB-A-1d-1 n10	8.981
06SB-A-1d-1 n11	8.995
06SB-A-1d-1 n12	8.941
06SB-A-1d-1 n13	8.947
06SB-A-1d-1 n14	8.943
06SB-A-1d-1 n15	8.918
06SB-A-1d-1 n16	8.862
06SB-A-1d-1 n17	8.848
06SB-A-1d-1 n18	8.818
06SB-A-1d-1 n19	8.803
06SB-A-1d-1 n20	8.820
06SB-A-1d-1 n21	8.820
06SB-A-1d-1 n22	8.853
06SB-A-1d-1 n23	8.856
06SB-A-1d-1 n24	8.879
06SB-A-1d-1 n25	8.906
06SB-A-1d-1 n26	8.956
06SB-A-1d-1 n27	8.883
06SB-A-1d-1 n28	8.827
06SB-A-1d-1 n29	8.820
06SB-A-1d-1 n30	8.795

06SB-A-1d-1

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1d-1 n31	8.788	06SB-A-1d-1 n72	8.856
06SB-A-1d-1 n32	8.798	06SB-A-1d-1 n73	8.834
06SB-A-1d-1 n33	8.815	06SB-A-1d-1 n74	8.825
06SB-A-1d-1 n34	8.893	06SB-A-1d-1 n75	8.807
06SB-A-1d-1 n35	8.939	06SB-A-1d-1 n76	8.795
06SB-A-1d-1 n36	8.960	06SB-A-1d-1 n77	8.814
06SB-A-1d-1 n37	8.998	06SB-A-1d-1 n78	8.856
06SB-A-1d-1 n38	8.954	06SB-A-1d-1 n79	8.900
06SB-A-1d-1 n39	8.899	06SB-A-1d-1 n80	8.916
06SB-A-1d-1 n40	8.864	06SB-A-1d-1 n81	8.918
06SB-A-1d-1 n41	8.838	06SB-A-1d-1 n82	8.926
06SB-A-1d-1 n42	8.830	06SB-A-1d-1 n83	8.893
06SB-A-1d-1 n43	8.856	06SB-A-1d-1 n84	8.841
06SB-A-1d-1 n44	8.910	06SB-A-1d-1 n85	8.810
06SB-A-1d-1 n45	8.963	06SB-A-1d-1 n86	8.818
06SB-A-1d-1 n46	9.024	06SB-A-1d-1 n87	8.792
06SB-A-1d-1 n47	9.008	06SB-A-1d-1 n88	8.778
06SB-A-1d-1 n48	8.960	06SB-A-1d-1 n89	8.823
06SB-A-1d-1 n49	8.845	06SB-A-1d-1 n90	8.877
06SB-A-1d-1 n50	8.847	06SB-A-1d-1 n91	8.916
06SB-A-1d-1 n51	8.837	06SB-A-1d-1 n92	8.919
06SB-A-1d-1 n52	8.872	06SB-A-1d-1 n93	8.940
06SB-A-1d-1 n53	8.903	06SB-A-1d-1 n94	8.895
06SB-A-1d-1 n54	8.950	06SB-A-1d-1 n95	8.871
06SB-A-1d-1 n55	8.965	06SB-A-1d-1 n96	8.835
06SB-A-1d-1 n56	8.950	06SB-A-1d-1 n97	8.867
06SB-A-1d-1 n57	8.942	06SB-A-1d-1 n98	8.881
06SB-A-1d-1 n58	8.920	06SB-A-1d-1 n99	8.851
06SB-A-1d-1 n59	8.876	06SB-A-1d-1 n100	8.820
06SB-A-1d-1 n60	8.881	06SB-A-1d-1 n101	8.854
06SB-A-1d-1 n61	8.831	06SB-A-1d-1 n102	8.866
06SB-A-1d-1 n62	8.852	06SB-A-1d-1 n103	8.885
06SB-A-1d-1 n63	8.840	06SB-A-1d-1 n104	8.919
06SB-A-1d-1 n64	8.853	06SB-A-1d-1 n105	8.917
06SB-A-1d-1 n65	8.854	06SB-A-1d-1 n106	8.889
06SB-A-1d-1 n66	8.870	06SB-A-1d-1 n107	8.837
06SB-A-1d-1 n67	8.891	06SB-A-1d-1 n108	8.841
06SB-A-1d-1 n68	8.920	06SB-A-1d-1 n109	8.791
06SB-A-1d-1 n69	8.924	06SB-A-1d-1 n110	8.819
06SB-A-1d-1 n70	8.917	06SB-A-1d-1 n111	8.837
06SB-A-1d-1 n71	8.875	06SB-A-1d-1 n112	8.848

06SB-A-1d-1

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1d-1 n113	8.862	06SB-A-1d-1 n154	8.882
06SB-A-1d-1 n114	8.845	06SB-A-1d-1 n155	8.876
06SB-A-1d-1 n115	8.856	06SB-A-1d-1 n156	8.841
06SB-A-1d-1 n116	8.891	06SB-A-1d-1 n157	8.871
06SB-A-1d-1 n117	8.916	06SB-A-1d-1 n158	8.888
06SB-A-1d-1 n118	8.913	06SB-A-1d-1 n159	8.934
06SB-A-1d-1 n119	8.891	06SB-A-1d-1 n160	8.964
06SB-A-1d-1 n120	8.826	06SB-A-1d-1 n161	8.973
06SB-A-1d-1 n121	8.778	06SB-A-1d-1 n162	8.941
06SB-A-1d-1 n122	8.801	06SB-A-1d-1 n163	8.978
06SB-A-1d-1 n123	8.796	06SB-A-1d-1 n164	8.919
06SB-A-1d-1 n124	8.813	06SB-A-1d-1 n165	8.905
06SB-A-1d-1 n125	8.855	06SB-A-1d-1 n166	8.917
06SB-A-1d-1 n126	8.887	06SB-A-1d-1 n167	8.864
06SB-A-1d-1 n127	8.922	06SB-A-1d-1 n168	8.922
06SB-A-1d-1 n128	8.920	06SB-A-1d-1 n169	8.938
06SB-A-1d-1 n129	8.910	06SB-A-1d-1 n170	8.949
06SB-A-1d-1 n130	8.909	06SB-A-1d-1 n171	8.996
06SB-A-1d-1 n131	8.868	06SB-A-1d-1 n172	9.012
06SB-A-1d-1 n132	8.840	06SB-A-1d-1 n173	9.014
06SB-A-1d-1 n133	8.845	06SB-A-1d-1 n174	8.934
06SB-A-1d-1 n134	8.806	06SB-A-1d-1 n175	8.918
06SB-A-1d-1 n135	8.798	06SB-A-1d-1 n176	8.891
06SB-A-1d-1 n136	8.801	06SB-A-1d-1 n177	8.851
06SB-A-1d-1 n137	8.843	06SB-A-1d-1 n178	8.868
06SB-A-1d-1 n138	8.878	06SB-A-1d-1 n179	8.846
06SB-A-1d-1 n139	8.883	06SB-A-1d-1 n180	8.828
06SB-A-1d-1 n140	8.958	06SB-A-1d-1 n181	8.886
06SB-A-1d-1 n141	8.961	06SB-A-1d-1 n182	8.844
06SB-A-1d-1 n142	8.928	06SB-A-1d-1 n183	8.888
06SB-A-1d-1 n143	8.888	06SB-A-1d-1 n184	8.930
06SB-A-1d-1 n144	8.822	06SB-A-1d-1 n185	8.916
06SB-A-1d-1 n145	8.805	06SB-A-1d-1 n186	8.920
06SB-A-1d-1 n146	8.838	06SB-A-1d-1 n187	8.900
06SB-A-1d-1 n147	8.833	06SB-A-1d-1 n188	8.873
06SB-A-1d-1 n148	8.839	06SB-A-1d-1 n189	8.866
06SB-A-1d-1 n149	8.856	06SB-A-1d-1 n190	8.889
06SB-A-1d-1 n150	8.896	06SB-A-1d-1 n191	8.866
06SB-A-1d-1 n151	8.923	06SB-A-1d-1 n192	8.852
06SB-A-1d-1 n152	8.942	06SB-A-1d-1 n193	8.890
06SB-A-1d-1 n153	8.895	06SB-A-1d-1 n194	8.884

06SB-A-1d-1

Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1d-1 n195	8.910
06SB-A-1d-1 n196	8.943
06SB-A-1d-1 n197	8.924
06SB-A-1d-1 n198	8.912
06SB-A-1d-1 n199	8.867
06SB-A-1d-1 n200	8.829
06SB-A-1d-1 n201	8.807
06SB-A-1d-1 n202	8.821
06SB-A-1d-1 n203	8.792
06SB-A-1d-1 n204	8.880

06SB-A-1d-2

Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1d-2 n1	8.903
06SB-A-1d-2 n2	8.868
06SB-A-1d-2 n3	8.870
06SB-A-1d-2 n4	8.855
06SB-A-1d-2 n5	8.877
06SB-A-1d-2 n6	8.855
06SB-A-1d-2 n7	8.845
06SB-A-1d-2 n8	8.860
06SB-A-1d-2 n9	8.862
06SB-A-1d-2 n10	8.900
06SB-A-1d-2 n11	8.914
06SB-A-1d-2 n12	8.845
06SB-A-1d-2 n13	8.876
06SB-A-1d-2 n14	8.834
06SB-A-1d-2 n15	8.828
06SB-A-1d-2 n16	8.802
06SB-A-1d-2 n17	8.832
06SB-A-1d-2 n18	8.867
06SB-A-1d-2 n19	8.866
06SB-A-1d-2 n20	8.879
06SB-A-1d-2 n21	8.899
06SB-A-1d-2 n22	8.912
06SB-A-1d-2 n23	8.901
06SB-A-1d-2 n24	8.895
06SB-A-1d-2 n25	8.855
06SB-A-1d-2 n26	8.822
06SB-A-1d-2 n27	8.799
06SB-A-1d-2 n28	8.771
06SB-A-1d-2 n29	8.799
06SB-A-1d-2 n30	8.811
06SB-A-1d-2 n31	8.836
06SB-A-1d-2 n32	8.887
06SB-A-1d-2 n33	8.873
06SB-A-1d-2 n34	8.892
06SB-A-1d-2 n35	8.940
06SB-A-1d-2 n36	8.957
06SB-A-1d-2 n37	8.941
06SB-A-1d-2 n38	8.917
06SB-A-1d-2 n39	8.905
06SB-A-1d-2 n40	8.846
06SB-A-1d-2 n41	8.868
06SB-A-1d-2 n42	8.858
06SB-A-1d-2 n43	8.812
06SB-A-1d-2 n44	8.815
06SB-A-1d-2 n45	8.844
06SB-A-1d-2 n46	8.868
06SB-A-1d-2 n47	8.915
06SB-A-1d-2 n48	8.947
06SB-A-1d-2 n49	8.973
06SB-A-1d-2 n50	8.993
06SB-A-1d-2 n51	8.954
06SB-A-1d-2 n52	8.930
06SB-A-1d-2 n53	8.853
06SB-A-1d-2 n54	8.844
06SB-A-1d-2 n55	8.821
06SB-A-1d-2 n56	8.836
06SB-A-1d-2 n57	8.856
06SB-A-1d-2 n58	8.842
06SB-A-1d-2 n59	8.862
06SB-A-1d-2 n60	8.901
06SB-A-1d-2 n61	8.925
06SB-A-1d-2 n62	8.939
06SB-A-1d-2 n63	8.977
06SB-A-1d-2 n64	8.949
06SB-A-1d-2 n65	8.942
06SB-A-1d-2 n66	8.865
06SB-A-1d-2 n67	8.845
06SB-A-1d-2 n68	8.834
06SB-A-1d-2 n69	8.861
06SB-A-1d-2 n70	8.901

06SB-A-1d-2

Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1d-2 n71	8.924
06SB-A-1d-2 n72	8.919
06SB-A-1d-2 n73	8.945
06SB-A-1d-2 n74	8.971
06SB-A-1d-2 n75	8.969
06SB-A-1d-2 n76	8.983
06SB-A-1d-2 n77	8.902
06SB-A-1d-2 n78	8.865
06SB-A-1d-2 n79	8.855
06SB-A-1d-2 n80	8.887
06SB-A-1d-2 n81	8.834
06SB-A-1d-2 n82	8.821
06SB-A-1d-2 n83	8.870
06SB-A-1d-2 n84	8.870
06SB-A-1d-2 n85	8.889
06SB-A-1d-2 n86	8.907
06SB-A-1d-2 n87	8.889
06SB-A-1d-2 n88	8.901
06SB-A-1d-2 n89	8.870
06SB-A-1d-2 n90	8.856
06SB-A-1d-2 n91	8.856
06SB-A-1d-2 n92	8.854
06SB-A-1d-2 n93	8.854
06SB-A-1d-2 n94	8.882
06SB-A-1d-2 n95	8.891
06SB-A-1d-2 n96	8.936
06SB-A-1d-2 n97	8.935
06SB-A-1d-2 n98	8.986
06SB-A-1d-2 n99	8.974
06SB-A-1d-2 n100	8.922
06SB-A-1d-2 n101	8.869
06SB-A-1d-2 n102	8.820
06SB-A-1d-2 n103	8.816
06SB-A-1d-2 n104	8.873
06SB-A-1d-2 n105	8.881
06SB-A-1d-2 n106	8.917
06SB-A-1d-2 n107	8.931
06SB-A-1d-2 n108	8.933
06SB-A-1d-2 n109	8.935
06SB-A-1d-2 n110	8.933
06SB-A-1d-2 n111	8.899
06SB-A-1d-2 n112	8.844
06SB-A-1d-2 n113	8.850
06SB-A-1d-2 n114	8.832
06SB-A-1d-2 n115	8.798
06SB-A-1d-2 n116	8.862
06SB-A-1d-2 n117	8.892
06SB-A-1d-2 n118	8.902
06SB-A-1d-2 n119	8.964
06SB-A-1d-2 n120	8.980
06SB-A-1d-2 n121	8.962
06SB-A-1d-2 n122	8.920
06SB-A-1d-2 n123	8.886
06SB-A-1d-2 n124	8.831
06SB-A-1d-2 n125	8.862
06SB-A-1d-2 n126	8.895
06SB-A-1d-2 n127	8.882
06SB-A-1d-2 n128	8.922
06SB-A-1d-2 n129	8.951
06SB-A-1d-2 n130	8.983
06SB-A-1d-2 n131	8.947
06SB-A-1d-2 n132	8.931
06SB-A-1d-2 n133	8.885
06SB-A-1d-2 n134	8.884
06SB-A-1d-2 n135	8.883
06SB-A-1d-2 n136	8.842
06SB-A-1d-2 n137	8.840
06SB-A-1d-2 n138	8.865

06SB-A-1d-3

Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1d-3 n1	8.863
06SB-A-1d-3 n2	8.948
06SB-A-1d-3 n3	8.963
06SB-A-1d-3 n4	8.929
06SB-A-1d-3 n5	8.919
06SB-A-1d-3 n6	8.837
06SB-A-1d-3 n7	8.874
06SB-A-1d-3 n8	8.886
06SB-A-1d-3 n9	8.835
06SB-A-1d-3 n10	8.847
06SB-A-1d-3 n11	8.873
06SB-A-1d-3 n12	8.879

06SB-A-1d-3

Sample Name	Sr/Ca (mMol/Mol)	Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1d-3 n13	8.889	06SB-A-1d-3 n54	8.800
06SB-A-1d-3 n14	8.916	06SB-A-1d-3 n55	8.791
06SB-A-1d-3 n15	8.889	06SB-A-1d-3 n56	8.850
06SB-A-1d-3 n16	8.870	06SB-A-1d-3 n57	8.876
06SB-A-1d-3 n17	8.853	06SB-A-1d-3 n58	8.909
06SB-A-1d-3 n18	8.859	06SB-A-1d-3 n59	8.922
06SB-A-1d-3 n19	8.833	06SB-A-1d-3 n60	8.936
06SB-A-1d-3 n20	8.809	06SB-A-1d-3 n61	8.951
06SB-A-1d-3 n21	8.845	06SB-A-1d-3 n62	8.985
06SB-A-1d-3 n22	8.902	06SB-A-1d-3 n63	8.929
06SB-A-1d-3 n23	8.884	06SB-A-1d-3 n64	8.894
06SB-A-1d-3 n24	8.902	06SB-A-1d-3 n65	8.849
06SB-A-1d-3 n25	8.925	06SB-A-1d-3 n66	8.813
06SB-A-1d-3 n26	8.881	06SB-A-1d-3 n67	8.765
06SB-A-1d-3 n27	8.867	06SB-A-1d-3 n68	8.813
06SB-A-1d-3 n28	8.862	06SB-A-1d-3 n69	8.814
06SB-A-1d-3 n29	8.840	06SB-A-1d-3 n70	8.846
06SB-A-1d-3 n30	8.865	06SB-A-1d-3 n71	8.921
06SB-A-1d-3 n31	8.849	06SB-A-1d-3 n72	8.927
06SB-A-1d-3 n32	8.844	06SB-A-1d-3 n73	8.959
06SB-A-1d-3 n33	8.867	06SB-A-1d-3 n74	8.938
06SB-A-1d-3 n34	8.869	06SB-A-1d-3 n75	8.923
06SB-A-1d-3 n35	8.890	06SB-A-1d-3 n76	8.912
06SB-A-1d-3 n36	8.912	06SB-A-1d-3 n77	8.859
06SB-A-1d-3 n37	8.967	06SB-A-1d-3 n78	8.883
06SB-A-1d-3 n38	8.943	06SB-A-1d-3 n79	8.950
06SB-A-1d-3 n39	8.937	06SB-A-1d-3 n80	8.871
06SB-A-1d-3 n40	8.900	06SB-A-1d-3 n81	8.877
06SB-A-1d-3 n41	8.857	06SB-A-1d-3 n82	8.910
06SB-A-1d-3 n42	8.829	06SB-A-1d-3 n83	8.926
06SB-A-1d-3 n43	8.821	06SB-A-1d-3 n84	8.939
06SB-A-1d-3 n44	8.819	06SB-A-1d-3 n85	8.939
06SB-A-1d-3 n45	8.910	06SB-A-1d-3 n86	8.898
06SB-A-1d-3 n46	8.940	06SB-A-1d-3 n87	8.866
06SB-A-1d-3 n47	8.969	06SB-A-1d-3 n88	8.838
06SB-A-1d-3 n48	9.023	06SB-A-1d-3 n89	8.835
06SB-A-1d-3 n49	8.999	06SB-A-1d-3 n90	8.839
06SB-A-1d-3 n50	8.999	06SB-A-1d-3 n91	8.859
06SB-A-1d-3 n51	8.937	06SB-A-1d-3 n92	8.833
06SB-A-1d-3 n52	8.887	06SB-A-1d-3 n93	8.821
06SB-A-1d-3 n53	8.826	06SB-A-1d-3 n94	8.840

06SB-A-1d-3

Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1d-3 n95	8.826
06SB-A-1d-3 n96	8.876
06SB-A-1d-3 n97	8.866
06SB-A-1d-3 n98	8.931
06SB-A-1d-3 n99	8.918
06SB-A-1d-3 n100	8.926
06SB-A-1d-3 n101	8.940
06SB-A-1d-3 n102	8.897
06SB-A-1d-3 n103	8.880
06SB-A-1d-3 n104	8.823
06SB-A-1d-3 n105	8.810
06SB-A-1d-3 n106	8.808
06SB-A-1d-3 n107	8.826
06SB-A-1d-3 n108	8.830
06SB-A-1d-3 n109	8.845
06SB-A-1d-3 n110	8.881
06SB-A-1d-3 n111	8.908
06SB-A-1d-3 n112	8.922
06SB-A-1d-3 n113	8.913
06SB-A-1d-3 n114	8.944

06SB-A-1e-1

Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1e-1 1	8.942
06SB-A-1e-1 2	8.916
06SB-A-1e-1 3	8.905
06SB-A-1e-1 4	8.911
06SB-A-1e-1 5	8.886
06SB-A-1e-1 6	8.877
06SB-A-1e-1 7	8.852
06SB-A-1e-1 8	8.877
06SB-A-1e-1 9	8.893
06SB-A-1e-1 10	8.860
06SB-A-1e-1 11	8.859
06SB-A-1e-1 12	8.812
06SB-A-1e-1 13	8.884
06SB-A-1e-1 14	8.893
06SB-A-1e-1 15	8.948
06SB-A-1e-1 16	8.922
06SB-A-1e-1 17	8.913
06SB-A-1e-1 18	8.935
06SB-A-1e-1 19	8.940
06SB-A-1e-1 20	8.925
06SB-A-1e-1 21	8.906
06SB-A-1e-1 22	8.873
06SB-A-1e-1 23	8.831
06SB-A-1e-1 24	8.877
06SB-A-1e-1 25	8.847
06SB-A-1e-1 26	8.868
06SB-A-1e-1 27	8.866
06SB-A-1e-1 28	8.833
06SB-A-1e-1 29	8.823
06SB-A-1e-1 30	8.829
06SB-A-1e-1 31	8.856
06SB-A-1e-1 32	8.888
06SB-A-1e-1 33	8.909
06SB-A-1e-1 34	8.944
06SB-A-1e-1 35	8.956
06SB-A-1e-1 36	8.964
06SB-A-1e-1 37	8.996
06SB-A-1e-1 38	8.934
06SB-A-1e-1 39	8.896
06SB-A-1e-1 40	8.881
06SB-A-1e-1 41	8.833
06SB-A-1e-1 42	8.824
06SB-A-1e-1 43	8.779
06SB-A-1e-1 44	8.798
06SB-A-1e-1 45	8.843
06SB-A-1e-1 46	8.841
06SB-A-1e-1 47	8.819
06SB-A-1e-1 48	8.808
06SB-A-1e-1 49	8.835
06SB-A-1e-1 50	8.895
06SB-A-1e-1 51	8.954
06SB-A-1e-1 52	9.011
06SB-A-1e-1 53	8.998
06SB-A-1e-1 54	8.996
06SB-A-1e-1 55	8.961
06SB-A-1e-1 56	8.909
06SB-A-1e-1 57	8.915
06SB-A-1e-1 58	8.889
06SB-A-1e-1 59	8.914
06SB-A-1e-1 60	8.895

06SB-A-1e-1

Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1e-1 61	8.887
06SB-A-1e-1 62	8.846
06SB-A-1e-1 63	8.876
06SB-A-1e-1 64	8.947
06SB-A-1e-1 65	8.975
06SB-A-1e-1 66	9.019
06SB-A-1e-1 67	9.037
06SB-A-1e-1 68	9.034
06SB-A-1e-1 69	9.030
06SB-A-1e-1 70	8.992
06SB-A-1e-1 71	8.965
06SB-A-1e-1 72	8.929

06SB-a-1e-2

Sample Name	Sr/Ca (mMol/Mol)
06SB-A-1e-2 1	9.020
06SB-A-1e-2 2	8.975
06SB-A-1e-2 3	8.988
06SB-A-1e-2 4	8.982
06SB-A-1e-2 5	8.937
06SB-A-1e-2 6	8.920
06SB-A-1e-2 7	8.894
06SB-A-1e-2 8	8.865
06SB-A-1e-2 9	8.885
06SB-A-1e-2 10	8.924
06SB-A-1e-2 11	8.939
06SB-A-1e-2 12	8.918
06SB-A-1e-2 13	8.925
06SB-A-1e-2 14	8.933
06SB-A-1e-2 15	8.963
06SB-A-1e-2 16	8.944
06SB-A-1e-2 17	8.944
06SB-A-1e-2 18	8.945
06SB-A-1e-2 19	8.846
06SB-A-1e-2 20	8.855
06SB-A-1e-2 21	8.821
06SB-A-1e-2 22	8.805
06SB-A-1e-2 23	8.816
06SB-A-1e-2 24	8.817
06SB-A-1e-2 25	8.809
06SB-A-1e-2 26	8.821
06SB-A-1e-2 27	8.846
06SB-A-1e-2 28	8.847
06SB-A-1e-2 29	8.893
06SB-A-1e-2 30	8.916
06SB-A-1e-2 31	8.960
06SB-A-1e-2 32	8.926
06SB-A-1e-2 33	8.943
06SB-A-1e-2 34	8.910
06SB-A-1e-2 35	8.887
06SB-A-1e-2 36	8.913
06SB-A-1e-2 37	8.896
06SB-A-1e-2 38	8.866
06SB-A-1e-2 39	8.881
06SB-A-1e-2 40	8.862
06SB-A-1e-2 41	8.884
06SB-A-1e-2 42	8.925
06SB-A-1e-2 43	8.896
06SB-A-1e-2 44	8.901
06SB-A-1e-2 45	8.928
06SB-A-1e-2 46	8.934
06SB-A-1e-2 47	8.956
06SB-A-1e-2 48	8.993
06SB-A-1e-2 49	9.002
06SB-A-1e-2 50	8.976
06SB-A-1e-2 51	8.981
06SB-A-1e-2 52	8.968
06SB-A-1e-2 53	8.901
06SB-A-1e-2 54	8.915
06SB-A-1e-2 55	8.860
06SB-A-1e-2 56	8.850
06SB-A-1e-2 57	8.854
06SB-A-1e-2 58	8.865
06SB-A-1e-2 59	8.860
06SB-A-1e-2 60	8.860
06SB-A-1e-2 61	8.898
06SB-A-1e-2 62	8.903
06SB-A-1e-2 63	8.912
06SB-A-1e-2 64	8.932

Appendix IV

Coral Sr/Ca time series data

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1873.875	8.891	1877.375	8.877
1873.958	8.874	1877.458	8.913
1874.042	8.879	1877.542	8.944
1874.125	8.807	1877.625	8.961
1874.208	8.860	1877.708	8.967
1874.292	8.850	1877.792	8.913
1874.375	8.837	1877.875	8.877
1874.458	8.846	1877.958	8.844
1874.542	8.901	1878.042	8.822
1874.625	8.898	1878.125	8.796
1874.708	8.920	1878.208	8.766
1874.792	8.910	1878.292	8.815
1874.875	8.866	1878.375	8.823
1874.958	8.793	1878.458	8.852
1875.042	8.752	1878.542	8.857
1875.125	8.779	1878.625	8.881
1875.208	8.813	1878.708	8.853
1875.292	8.844	1878.792	8.847
1875.375	8.876	1878.875	8.847
1875.458	8.908	1878.958	8.830
1875.542	8.932	1879.042	8.844
1875.625	8.910	1879.125	8.815
1875.708	8.902	1879.208	8.792
1875.792	8.887	1879.292	8.818
1875.875	8.870	1879.375	8.816
1875.958	8.841	1879.458	8.830
1876.042	8.830	1879.542	8.881
1876.125	8.832	1879.625	8.886
1876.208	8.856	1879.708	8.930
1876.292	8.861	1879.792	8.923
1876.375	8.854	1879.875	8.895
1876.458	8.930	1879.958	8.852
1876.542	8.960	1880.042	8.809
1876.625	8.993	1880.125	8.791
1876.708	8.933	1880.208	8.830
1876.792	8.897	1880.292	8.864
1876.875	8.882	1880.375	8.876
1876.958	8.839	1880.458	8.858
1877.042	8.800	1880.542	8.905
1877.125	8.777	1880.625	8.918
1877.208	8.815	1880.708	8.910
1877.292	8.800	1880.792	8.908

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1880.875	8.856	1884.375	8.936
1880.958	8.826	1884.458	9.001
1881.042	8.809	1884.542	9.049
1881.125	8.789	1884.625	9.017
1881.208	8.809	1884.708	8.935
1881.292	8.829	1884.792	8.906
1881.375	8.876	1884.875	8.886
1881.458	8.933	1884.958	8.856
1881.542	8.865	1885.042	8.852
1881.625	8.862	1885.125	8.828
1881.708	8.851	1885.208	8.826
1881.792	8.820	1885.292	8.868
1881.875	8.800	1885.375	8.882
1881.958	8.810	1885.458	8.930
1882.042	8.792	1885.542	8.939
1882.125	8.777	1885.625	8.965
1882.208	8.769	1885.708	8.963
1882.292	8.798	1885.792	8.916
1882.375	8.853	1885.875	8.882
1882.458	8.876	1885.958	8.887
1882.542	8.891	1886.042	8.848
1882.625	8.938	1886.125	8.810
1882.708	8.900	1886.208	8.839
1882.792	8.898	1886.292	8.849
1882.875	8.923	1886.375	8.870
1882.958	8.841	1886.458	8.913
1883.042	8.882	1886.542	8.947
1883.125	8.788	1886.625	8.904
1883.208	8.878	1886.708	8.935
1883.292	8.873	1886.792	8.857
1883.375	8.899	1886.875	8.859
1883.458	8.955	1886.958	8.829
1883.542	8.944	1887.042	8.818
1883.625	9.001	1887.125	8.795
1883.708	8.950	1887.208	8.844
1883.792	8.908	1887.292	8.885
1883.875	8.905	1887.375	8.912
1883.958	8.908	1887.458	8.949
1884.042	8.884	1887.542	8.939
1884.125	8.882	1887.625	8.941
1884.208	8.847	1887.708	8.943
1884.292	8.895	1887.792	8.904

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1887.875	8.883	1891.375	8.889
1887.958333	8.885	1891.458333	8.847
1888.041667	8.870	1891.541667	8.888
1888.125	8.815	1891.625	8.917
1888.208333	8.822	1891.708333	8.937
1888.291667	8.914	1891.791667	8.896
1888.375	8.915	1891.875	8.864
1888.458333	8.957	1891.958333	8.801
1888.541667	8.945	1892.041667	8.804
1888.625	8.983	1892.125	8.778
1888.708333	8.916	1892.208333	8.790
1888.791667	8.860	1892.291667	8.815
1888.875	8.813	1892.375	8.853
1888.958333	8.839	1892.458333	8.882
1889.041667	8.832	1892.541667	8.906
1889.125	8.807	1892.625	8.863
1889.208333	8.756	1892.708333	8.835
1889.291667	8.809	1892.791667	8.839
1889.375	8.824	1892.875	8.815
1889.458333	8.854	1892.958333	8.811
1889.541667	8.901	1893.041667	8.792
1889.625	8.929	1893.125	8.788
1889.708333	8.888	1893.208333	8.741
1889.791667	8.906	1893.291667	8.782
1889.875	8.894	1893.375	8.826
1889.958333	8.875	1893.458333	8.860
1890.041667	8.830	1893.541667	8.870
1890.125	8.773	1893.625	8.902
1890.208333	8.826	1893.708333	8.931
1890.291667	8.829	1893.791667	8.889
1890.375	8.809	1893.875	8.850
1890.458333	8.824	1893.958333	8.845
1890.541667	8.839	1894.041667	8.806
1890.625	8.919	1894.125	8.802
1890.708333	8.880	1894.208333	8.819
1890.791667	8.877	1894.291667	8.875
1890.875	8.877	1894.375	8.865
1890.958333	8.828	1894.458333	8.925
1891.041667	8.840	1894.541667	8.927
1891.125	8.823	1894.625	8.938
1891.208333	8.752	1894.708333	8.924
1891.291667	8.857	1894.791667	8.856

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1894.875	8.850	1898.375	8.883
1894.958333	8.833	1898.458333	8.912
1895.041667	8.819	1898.541667	8.986
1895.125	8.794	1898.625	8.957
1895.208333	8.845	1898.708333	8.936
1895.291667	8.879	1898.791667	8.906
1895.375	8.911	1898.875	8.889
1895.458333	8.940	1898.958333	8.899
1895.541667	8.936	1899.041667	8.876
1895.625	8.955	1899.125	8.839
1895.708333	8.928	1899.208333	8.857
1895.791667	8.894	1899.291667	8.874
1895.875	8.883	1899.375	8.899
1895.958333	8.869	1899.458333	8.909
1896.041667	8.870	1899.541667	8.929
1896.125	8.824	1899.625	8.945
1896.208333	8.849	1899.708333	8.937
1896.291667	8.860	1899.791667	8.929
1896.375	8.880	1899.875	8.880
1896.458333	8.889	1899.958333	8.856
1896.541667	8.900	1900.041667	8.836
1896.625	8.934	1900.125	8.842
1896.708333	8.965	1900.208333	8.842
1896.791667	8.966	1900.291667	8.847
1896.875	8.915	1900.375	8.917
1896.958333	8.868	1900.458333	8.920
1897.041667	8.860	1900.541667	8.953
1897.125	8.834	1900.625	8.906
1897.208333	8.782	1900.708333	8.887
1897.291667	8.848	1900.791667	8.883
1897.375	8.838	1900.875	8.882
1897.458333	8.890	1900.958333	8.914
1897.541667	8.931	1901.041667	8.916
1897.625	8.920	1901.125	8.892
1897.708333	8.878	1901.208333	8.848
1897.791667	8.857	1901.291667	8.850
1897.875	8.871	1901.375	8.880
1897.958333	8.840	1901.458333	8.916
1898.041667	8.819	1901.541667	8.951
1898.125	8.766	1901.625	8.992
1898.208333	8.806	1901.708333	8.927
1898.291667	8.857	1901.791667	8.907

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1901.875	8.899	1905.375	8.937
1901.958333	8.860	1905.458333	8.973
1902.041667	8.862	1905.541667	8.992
1902.125	8.857	1905.625	9.032
1902.208333	8.850	1905.708333	9.037
1902.291667	8.882	1905.791667	9.019
1902.375	8.904	1905.875	8.975
1902.458333	8.971	1905.958333	8.947
1902.541667	8.978	1906.041667	8.876
1902.625	9.002	1906.125	8.846
1902.708333	8.983	1906.208333	8.900
1902.791667	8.944	1906.291667	8.902
1902.875	8.929	1906.375	8.948
1902.958333	8.900	1906.458333	8.998
1903.041667	8.909	1906.541667	9.004
1903.125	8.896	1906.625	8.941
1903.208333	8.862	1906.708333	8.875
1903.291667	8.873	1906.791667	8.823
1903.375	8.896	1906.875	8.814
1903.458333	8.900	1906.958333	8.834
1903.541667	8.910	1907.041667	8.842
1903.625	8.935	1907.125	8.803
1903.708333	8.960	1907.208333	8.779
1903.791667	8.898	1907.291667	8.826
1903.875	8.846	1907.375	8.853
1903.958333	8.816	1907.458333	8.890
1904.041667	8.817	1907.541667	8.926
1904.125	8.805	1907.625	8.996
1904.208333	8.827	1907.708333	8.958
1904.291667	8.852	1907.791667	8.923
1904.375	8.896	1907.875	8.875
1904.458333	8.944	1907.958333	8.828
1904.541667	8.944	1908.041667	8.833
1904.625	8.963	1908.125	8.867
1904.708333	8.933	1908.208333	8.868
1904.791667	8.925	1908.291667	8.855
1904.875	8.918	1908.375	8.914
1904.958333	8.939	1908.458333	8.939
1905.041667	8.924	1908.541667	8.915
1905.125	8.885	1908.625	8.948
1905.208333	8.865	1908.708333	8.921
1905.291667	8.907	1908.791667	8.893

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1908.875	8.889	1912.375	8.918
1908.958333	8.884	1912.458333	8.929
1909.041667	8.848	1912.541667	8.942
1909.125	8.812	1912.625	8.959
1909.208333	8.859	1912.708333	8.927
1909.291667	8.886	1912.791667	8.921
1909.375	8.855	1912.875	8.846
1909.458333	8.884	1912.958333	8.814
1909.541667	8.908	1913.041667	8.813
1909.625	8.923	1913.125	8.765
1909.708333	8.944	1913.208333	8.800
1909.791667	8.920	1913.291667	8.828
1909.875	8.892	1913.375	8.855
1909.958333	8.839	1913.458333	8.888
1910.041667	8.823	1913.541667	8.914
1910.125	8.810	1913.625	8.945
1910.208333	8.820	1913.708333	8.985
1910.291667	8.857	1913.791667	8.945
1910.375	8.887	1913.875	8.925
1910.458333	8.906	1913.958333	8.903
1910.541667	8.940	1914.041667	8.861
1910.625	8.923	1914.125	8.791
1910.708333	8.927	1914.208333	8.805
1910.791667	8.866	1914.291667	8.846
1910.875	8.859	1914.375	8.912
1910.958333	8.835	1914.458333	8.978
1911.041667	8.821	1914.541667	8.999
1911.125	8.837	1914.625	9.023
1911.208333	8.852	1914.708333	8.992
1911.291667	8.837	1914.791667	8.965
1911.375	8.837	1914.875	8.948
1911.458333	8.862	1914.958333	8.931
1911.541667	8.898	1915.041667	8.914
1911.625	8.939	1915.125	8.871
1911.708333	8.939	1915.208333	8.819
1911.791667	8.923	1915.291667	8.827
1911.875	8.899	1915.375	8.878
1911.958333	8.874	1915.458333	8.938
1912.041667	8.923	1915.541667	8.967
1912.125	8.894	1915.625	8.909
1912.208333	8.859	1915.708333	8.884
1912.291667	8.901	1915.791667	8.868

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1915.875	8.854	1919.375	8.920
1915.958333	8.847	1919.458333	8.948
1916.041667	8.863	1919.541667	8.968
1916.125	8.840	1919.625	8.980
1916.208333	8.858	1919.708333	8.964
1916.291667	8.865	1919.791667	8.902
1916.375	8.873	1919.875	8.892
1916.458333	8.890	1919.958333	8.862
1916.541667	8.925	1920.041667	8.798
1916.625	8.909	1920.125	8.832
1916.708333	8.894	1920.208333	8.850
1916.791667	8.886	1920.291667	8.844
1916.875	8.900	1920.375	8.899
1916.958333	8.870	1920.458333	8.933
1917.041667	8.835	1920.541667	8.935
1917.125	8.809	1920.625	8.933
1917.208333	8.833	1920.708333	8.931
1917.291667	8.859	1920.791667	8.917
1917.375	8.853	1920.875	8.881
1917.458333	8.870	1920.958333	8.873
1917.541667	8.889	1921.041667	8.816
1917.625	8.916	1921.125	8.819
1917.708333	8.894	1921.208333	8.841
1917.791667	8.883	1921.291667	8.876
1917.875	8.873	1921.375	8.915
1917.958333	8.860	1921.458333	8.952
1918.041667	8.840	1921.541667	8.978
1918.125	8.842	1921.625	8.986
1918.208333	8.873	1921.708333	8.935
1918.291667	8.884	1921.791667	8.936
1918.375	8.885	1921.875	8.891
1918.458333	8.903	1921.958333	8.882
1918.541667	8.935	1922.041667	8.854
1918.625	8.951	1922.125	8.854
1918.708333	8.983	1922.208333	8.855
1918.791667	8.945	1922.291667	8.856
1918.875	8.906	1922.375	8.864
1918.958333	8.890	1922.458333	8.883
1919.041667	8.868	1922.541667	8.897
1919.125	8.831	1922.625	8.891
1919.208333	8.868	1922.708333	8.907
1919.291667	8.897	1922.791667	8.893

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1922.875	8.878	1926.375	8.913
1922.958333	8.870	1926.458333	8.937
1923.041667	8.861	1926.541667	8.957
1923.125	8.821	1926.625	8.940
1923.208333	8.832	1926.708333	8.892
1923.291667	8.872	1926.791667	8.873
1923.375	8.868	1926.875	8.887
1923.458333	8.859	1926.958333	8.836
1923.541667	8.876	1927.041667	8.811
1923.625	8.913	1927.125	8.799
1923.708333	8.983	1927.208333	8.771
1923.791667	8.970	1927.291667	8.799
1923.875	8.954	1927.375	8.822
1923.958333	8.919	1927.458333	8.855
1924.041667	8.916	1927.541667	8.895
1924.125	8.874	1927.625	8.901
1924.208333	8.834	1927.708333	8.912
1924.291667	8.843	1927.791667	8.889
1924.375	8.858	1927.875	8.866
1924.458333	8.903	1927.958333	8.850
1924.541667	8.944	1928.041667	8.807
1924.625	8.953	1928.125	8.823
1924.708333	8.977	1928.208333	8.845
1924.791667	8.925	1928.291667	8.873
1924.875	8.862	1928.375	8.905
1924.958333	8.856	1928.458333	8.919
1925.041667	8.821	1928.541667	8.930
1925.125	8.835	1928.625	8.943
1925.208333	8.846	1928.708333	8.921
1925.291667	8.852	1928.791667	8.902
1925.375	8.892	1928.875	8.884
1925.458333	8.933	1928.958333	8.888
1925.541667	8.948	1929.041667	8.877
1925.625	8.969	1929.125	8.852
1925.708333	8.993	1929.208333	8.880
1925.791667	8.954	1929.291667	8.867
1925.875	8.891	1929.375	8.894
1925.958333	8.837	1929.458333	8.918
1926.041667	8.812	1929.541667	8.930
1926.125	8.860	1929.625	8.906
1926.208333	8.861	1929.708333	8.882
1926.291667	8.876	1929.791667	8.857

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1929.875	8.856	1933.375	8.888
1929.958333	8.880	1933.458333	8.928
1930.041667	8.861	1933.541667	8.961
1930.125	8.828	1933.625	8.959
1930.208333	8.855	1933.708333	8.905
1930.291667	8.855	1933.791667	8.880
1930.375	8.897	1933.875	8.863
1930.458333	8.927	1933.958333	8.831
1930.541667	9.014	1934.041667	8.801
1930.625	9.012	1934.125	8.798
1930.708333	9.001	1934.208333	8.819
1930.791667	8.969	1934.291667	8.842
1930.875	8.944	1934.375	8.868
1930.958333	8.934	1934.458333	8.909
1931.041667	8.914	1934.541667	8.917
1931.125	8.864	1934.625	8.922
1931.208333	8.916	1934.708333	8.887
1931.291667	8.905	1934.791667	8.855
1931.375	8.918	1934.875	8.813
1931.458333	8.970	1934.958333	8.796
1931.541667	8.944	1935.041667	8.801
1931.625	8.973	1935.125	8.778
1931.708333	8.965	1935.208333	8.806
1931.791667	8.944	1935.291667	8.836
1931.875	8.911	1935.375	8.873
1931.958333	8.883	1935.458333	8.898
1932.041667	8.866	1935.541667	8.910
1932.125	8.841	1935.625	8.914
1932.208333	8.864	1935.708333	8.916
1932.291667	8.878	1935.791667	8.879
1932.375	8.882	1935.875	8.848
1932.458333	8.891	1935.958333	8.862
1932.541667	8.911	1936.041667	8.844
1932.625	8.942	1936.125	8.825
1932.708333	8.923	1936.208333	8.791
1932.791667	8.896	1936.291667	8.840
1932.875	8.856	1936.375	8.863
1932.958333	8.839	1936.458333	8.910
1933.041667	8.833	1936.541667	8.919
1933.125	8.838	1936.625	8.896
1933.208333	8.805	1936.708333	8.879
1933.291667	8.822	1936.791667	8.866

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1936.875	8.858	1940.375	8.920
1936.958333	8.843	1940.458334	8.942
1937.041667	8.820	1940.541667	8.950
1937.125	8.856	1940.625	8.965
1937.208333	8.876	1940.708334	8.955
1937.291667	8.851	1940.791667	8.934
1937.375	8.859	1940.875	8.903
1937.458333	8.891	1940.958334	8.883
1937.541667	8.940	1941.041667	8.860
1937.625	8.925	1941.125	8.837
1937.708333	8.918	1941.208334	8.845
1937.791667	8.911	1941.291667	8.846
1937.875	8.882	1941.375	8.902
1937.958333	8.846	1941.458334	8.976
1938.041667	8.810	1941.541667	9.011
1938.125	8.778	1941.625	9.024
1938.208333	8.790	1941.708334	8.983
1938.291667	8.811	1941.791667	8.945
1938.375	8.814	1941.875	8.910
1938.458333	8.824	1941.958334	8.874
1938.541667	8.856	1942.041667	8.847
1938.625	8.898	1942.125	8.830
1938.708333	8.926	1942.208334	8.837
1938.791667	8.918	1942.291667	8.855
1938.875	8.916	1942.375	8.882
1938.958333	8.900	1942.458334	8.917
1939.041667	8.856	1942.541667	8.962
1939.125	8.814	1942.625	8.998
1939.208333	8.795	1942.708334	8.956
1939.291667	8.821	1942.791667	8.921
1939.375	8.845	1942.875	8.846
1939.458333	8.885	1942.958334	8.801
1939.541667	8.924	1943.041667	8.788
1939.625	8.915	1943.125	8.794
1939.708333	8.885	1943.208334	8.812
1939.791667	8.863	1943.291667	8.824
1939.875	8.853	1943.375	8.846
1939.958333	8.844	1943.458334	8.895
1940.041667	8.850	1943.541667	8.956
1940.125	8.831	1943.625	8.895
1940.208334	8.881	1943.708334	8.861
1940.291667	8.876	1943.791667	8.846

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1943.875	8.820	1947.375	8.824
1943.958334	8.803	1947.458334	8.877
1944.041667	8.824	1947.541667	8.930
1944.125	8.875	1947.625	8.925
1944.208334	8.907	1947.708334	8.920
1944.291667	8.918	1947.791667	8.904
1944.375	8.920	1947.875	8.887
1944.458334	8.929	1947.958334	8.884
1944.541667	8.960	1948.041667	8.882
1944.625	8.978	1948.125	8.835
1944.708334	8.958	1948.208334	8.789
1944.791667	8.937	1948.291667	8.840
1944.875	8.907	1948.375	8.833
1944.958334	8.876	1948.458334	8.880
1945.041667	8.840	1948.541667	8.948
1945.125	8.803	1948.625	8.911
1945.208334	8.853	1948.708334	8.895
1945.291667	8.850	1948.791667	8.910
1945.375	8.866	1948.875	8.858
1945.458334	8.923	1948.958334	8.830
1945.541667	8.945	1949.041667	8.826
1945.625	8.910	1949.125	8.791
1945.708334	8.880	1949.208334	8.774
1945.791667	8.832	1949.291667	8.856
1945.875	8.808	1949.375	8.900
1945.958334	8.801	1949.458334	8.949
1946.041667	8.810	1949.541667	8.925
1946.125	8.790	1949.625	8.882
1946.208334	8.840	1949.708334	8.860
1946.291667	8.855	1949.791667	8.850
1946.375	8.901	1949.875	8.839
1946.458334	8.928	1949.958334	8.827
1946.541667	8.923	1950.041667	8.812
1946.625	8.940	1950.125	8.802
1946.708334	8.924	1950.208334	8.858
1946.791667	8.899	1950.291667	8.879
1946.875	8.859	1950.375	8.878
1946.958334	8.819	1950.458334	8.886
1947.041667	8.790	1950.541667	8.898
1947.125	8.803	1950.625	8.911
1947.208334	8.804	1950.708334	8.925
1947.291667	8.795	1950.791667	8.868

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1950.875	8.924	1954.375	8.902
1950.958334	8.881	1954.458334	8.939
1951.041667	8.862	1954.541667	8.917
1951.125	8.812	1954.625	8.861
1951.208334	8.839	1954.708334	8.868
1951.291667	8.906	1954.791667	8.936
1951.375	8.930	1954.875	8.895
1951.458334	8.941	1954.958334	8.857
1951.541667	8.938	1955.041667	8.833
1951.625	8.909	1955.125	8.834
1951.708334	8.978	1955.208334	8.848
1951.791667	8.921	1955.291667	8.862
1951.875	8.883	1955.375	8.875
1951.958334	8.887	1955.458334	8.879
1952.041667	8.884	1955.541667	8.882
1952.125	8.877	1955.625	8.885
1952.208334	8.882	1955.708334	8.854
1952.291667	8.886	1955.791667	8.834
1952.375	8.890	1955.875	8.836
1952.458334	8.907	1955.958334	8.829
1952.541667	8.924	1956.041667	8.819
1952.625	8.940	1956.125	8.829
1952.708334	8.931	1956.208334	8.840
1952.791667	8.916	1956.291667	8.851
1952.875	8.892	1956.375	8.858
1952.958334	8.936	1956.458334	8.861
1953.041667	8.991	1956.541667	8.864
1953.125	8.889	1956.625	8.867
1953.208334	8.906	1956.708334	8.853
1953.291667	8.922	1956.791667	8.840
1953.375	8.939	1956.875	8.838
1953.458334	8.951	1956.958334	8.837
1953.541667	8.959	1957.041667	8.802
1953.625	8.967	1957.125	8.767
1953.708334	8.975	1957.208334	8.800
1953.791667	8.907	1957.291667	8.801
1953.875	8.846	1957.375	8.815
1953.958334	8.879	1957.458334	8.855
1954.041667	8.829	1957.541667	8.906
1954.125	8.845	1957.625	8.907
1954.208334	8.816	1957.708334	8.902
1954.291667	8.832	1957.791667	8.896

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1957.875	8.890	1961.375	8.874
1957.958334	8.834	1961.458334	8.923
1958.041667	8.803	1961.541667	8.943
1958.125	8.797	1961.625	8.937
1958.208334	8.816	1961.708334	8.951
1958.291667	8.823	1961.791667	8.911
1958.375	8.835	1961.875	8.886
1958.458334	8.871	1961.958334	8.890
1958.541667	8.907	1962.041667	8.862
1958.625	8.944	1962.125	8.831
1958.708334	8.983	1962.208334	8.855
1958.791667	8.954	1962.291667	8.872
1958.875	8.927	1962.375	8.876
1958.958334	8.894	1962.458334	8.902
1959.041667	8.869	1962.541667	8.938
1959.125	8.822	1962.625	8.933
1959.208334	8.854	1962.708334	8.915
1959.291667	8.902	1962.791667	8.906
1959.375	8.966	1962.875	8.879
1959.458334	8.917	1962.958334	8.830
1959.541667	8.972	1963.041667	8.798
1959.625	8.973	1963.125	8.790
1959.708334	8.966	1963.208334	8.797
1959.791667	8.941	1963.291667	8.804
1959.875	8.914	1963.375	8.832
1959.958334	8.889	1963.458334	8.869
1960.041667	8.868	1963.541667	8.898
1960.125	8.868	1963.625	8.907
1960.208334	8.869	1963.708334	8.915
1960.291667	8.937	1963.791667	8.886
1960.375	9.010	1963.875	8.879
1960.458334	8.959	1963.958334	8.844
1960.541667	8.969	1964.041667	8.820
1960.625	9.037	1964.125	8.770
1960.708334	8.961	1964.208334	8.780
1960.791667	8.943	1964.291667	8.816
1960.875	8.875	1964.375	8.880
1960.958334	8.920	1964.458334	8.909
1961.041667	8.914	1964.541667	8.928
1961.125	8.893	1964.625	8.937
1961.208334	8.872	1964.708334	8.929
1961.291667	8.838	1964.791667	8.910

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1964.875	8.834	1968.375	8.915
1964.958334	8.866	1968.458334	8.930
1965.041667	8.853	1968.541667	8.910
1965.125	8.786	1968.625	8.917
1965.208334	8.818	1968.708334	8.950
1965.291667	8.850	1968.791667	8.931
1965.375	8.882	1968.875	8.922
1965.458334	8.907	1968.958334	8.911
1965.541667	8.923	1969.041667	8.869
1965.625	8.939	1969.125	8.803
1965.708334	8.956	1969.208334	8.795
1965.791667	8.864	1969.291667	8.864
1965.875	8.873	1969.375	8.886
1965.958334	8.845	1969.458334	8.913
1966.041667	8.812	1969.541667	8.951
1966.125	8.799	1969.625	8.964
1966.208334	8.870	1969.708334	8.964
1966.291667	8.935	1969.791667	8.947
1966.375	8.997	1969.875	8.923
1966.458334	8.993	1969.958334	8.885
1966.541667	9.037	1970.041667	8.833
1966.625	9.018	1970.125	8.892
1966.708334	8.999	1970.208334	8.861
1966.791667	8.974	1970.291667	8.875
1966.875	8.936	1970.375	8.882
1966.958334	8.899	1970.458334	8.876
1967.041667	8.872	1970.541667	8.923
1967.125	8.851	1970.625	8.965
1967.208334	8.830	1970.708334	8.954
1967.291667	8.915	1970.791667	8.936
1967.375	8.942	1970.875	8.889
1967.458334	8.964	1970.958334	8.872
1967.541667	8.984	1971.041667	8.866
1967.625	8.941	1971.125	8.868
1967.708334	8.930	1971.208334	8.900
1967.791667	8.975	1971.291667	8.933
1967.875	8.890	1971.375	8.932
1967.958334	8.912	1971.458334	8.931
1968.041667	8.883	1971.541667	8.947
1968.125	8.858	1971.625	8.963
1968.208334	8.844	1971.708334	8.939
1968.291667	8.887	1971.791667	8.904

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1971.875	8.823	1975.375	8.863
1971.958334	8.865	1975.458334	8.864
1972.041667	8.883	1975.541667	8.930
1972.125	8.883	1975.625	8.906
1972.208334	8.821	1975.708334	8.872
1972.291667	8.885	1975.791667	8.827
1972.375	8.872	1975.875	8.789
1972.458334	8.887	1975.958334	8.775
1972.541667	8.876	1976.041667	8.786
1972.625	8.908	1976.125	8.818
1972.708334	8.958	1976.208334	8.816
1972.791667	8.896	1976.291667	8.780
1972.875	8.920	1976.375	8.779
1972.958334	8.889	1976.458334	8.815
1973.041667	8.878	1976.541667	8.840
1973.125	8.871	1976.625	8.874
1973.208334	8.886	1976.708334	8.900
1973.291667	8.902	1976.791667	8.852
1973.375	8.911	1976.875	8.855
1973.458334	8.914	1976.958334	8.807
1973.541667	8.917	1977.041667	8.767
1973.625	8.883	1977.125	8.838
1973.708334	8.880	1977.208334	8.881
1973.791667	8.813	1977.291667	8.900
1973.875	8.795	1977.375	8.866
1973.958334	8.759	1977.458334	8.969
1974.041667	8.755	1977.541667	8.960
1974.125	8.774	1977.625	8.959
1974.208334	8.782	1977.708334	8.955
1974.291667	8.803	1977.791667	8.918
1974.375	8.846	1977.875	8.872
1974.458334	8.862	1977.958334	8.832
1974.541667	8.898	1978.041667	8.803
1974.625	8.898	1978.125	8.807
1974.708334	8.908	1978.208334	8.810
1974.791667	8.876	1978.291667	8.826
1974.875	8.844	1978.375	8.858
1974.958334	8.813	1978.458334	8.887
1975.041667	8.781	1978.541667	8.897
1975.125	8.821	1978.625	8.916
1975.208334	8.840	1978.708334	8.945
1975.291667	8.797	1978.791667	8.979

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1978.875	8.943	1982.375	8.907
1978.958334	8.911	1982.458334	8.970
1979.041667	8.889	1982.541667	9.016
1979.125	8.893	1982.625	9.020
1979.208334	8.831	1982.708334	8.964
1979.291667	8.880	1982.791667	8.912
1979.375	8.911	1982.875	8.851
1979.458334	8.924	1982.958334	8.832
1979.541667	8.945	1983.041667	8.813
1979.625	8.971	1983.125	8.803
1979.708334	9.003	1983.208334	8.810
1979.791667	8.931	1983.291667	8.874
1979.875	8.872	1983.375	8.930
1979.958334	8.866	1983.458334	8.954
1980.041667	8.841	1983.541667	8.966
1980.125	8.833	1983.625	8.921
1980.208334	8.831	1983.708334	8.911
1980.291667	8.895	1983.791667	8.920
1980.375	8.939	1983.875	8.788
1980.458334	8.966	1983.958334	8.797
1980.541667	8.981	1984.041667	8.783
1980.625	8.978	1984.125	8.784
1980.708334	8.987	1984.208334	8.740
1980.791667	8.888	1984.291667	8.799
1980.875	8.855	1984.375	8.841
1980.958334	8.828	1984.458334	8.899
1981.041667	8.807	1984.541667	8.947
1981.125	8.819	1984.625	8.861
1981.208334	8.825	1984.708334	8.861
1981.291667	8.888	1984.791667	8.868
1981.375	8.924	1984.875	8.835
1981.458334	8.992	1984.958334	8.774
1981.541667	9.013	1985.041667	8.761
1981.625	9.033	1985.125	8.747
1981.708334	9.043	1985.208334	8.739
1981.791667	8.795	1985.291667	8.780
1981.875	8.925	1985.375	8.840
1981.958334	8.845	1985.458334	8.875
1982.041667	8.829	1985.541667	8.865
1982.125	8.862	1985.625	8.886
1982.208334	8.859	1985.708334	8.881
1982.291667	8.865	1985.791667	8.846

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1985.875	8.825	1989.375	8.850
1985.958334	8.803	1989.458334	8.861
1986.041667	8.756	1989.541667	8.907
1986.125	8.736	1989.625	8.870
1986.208334	8.702	1989.708334	8.813
1986.291667	8.719	1989.791667	8.753
1986.375	8.730	1989.875	8.749
1986.458334	8.824	1989.958334	8.722
1986.541667	8.886	1990.041667	8.705
1986.625	8.925	1990.125	8.744
1986.708334	8.953	1990.208334	8.769
1986.791667	8.906	1990.291667	8.786
1986.875	8.870	1990.375	8.803
1986.958334	8.845	1990.458334	8.856
1987.041667	8.821	1990.541667	8.848
1987.125	8.791	1990.625	8.891
1987.208334	8.798	1990.708334	8.907
1987.291667	8.874	1990.791667	8.881
1987.375	8.894	1990.875	8.854
1987.458334	8.909	1990.958334	8.782
1987.541667	8.965	1991.041667	8.837
1987.625	9.006	1991.125	8.803
1987.708334	8.979	1991.208334	8.795
1987.791667	8.885	1991.291667	8.807
1987.875	8.825	1991.375	8.870
1987.958334	8.822	1991.458334	8.912
1988.041667	8.811	1991.541667	8.960
1988.125	8.812	1991.625	8.922
1988.208334	8.882	1991.708334	8.948
1988.291667	8.818	1991.791667	8.917
1988.375	8.892	1991.875	8.915
1988.458334	8.867	1991.958334	8.898
1988.541667	8.898	1992.041667	8.858
1988.625	8.884	1992.125	8.822
1988.708334	8.871	1992.208334	8.864
1988.791667	8.854	1992.291667	8.890
1988.875	8.815	1992.375	8.901
1988.958334	8.800	1992.458334	8.896
1989.041667	8.791	1992.541667	8.902
1989.125	8.780	1992.625	8.935
1989.208334	8.825	1992.708334	8.965
1989.291667	8.800	1992.791667	8.928

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1992.875	8.921	1996.375	8.777
1992.958334	8.914	1996.458334	8.830
1993.041667	8.887	1996.541667	8.877
1993.125	8.830	1996.625	8.848
1993.208334	8.817	1996.708334	8.885
1993.291667	8.847	1996.791667	8.884
1993.375	8.873	1996.875	8.868
1993.458334	8.888	1996.958334	8.838
1993.541667	8.939	1997.041667	8.831
1993.625	8.974	1997.125	8.821
1993.708334	9.003	1997.208334	8.803
1993.791667	8.920	1997.291667	8.854
1993.875	8.891	1997.375	8.889
1993.958334	8.865	1997.458334	8.903
1994.041667	8.863	1997.541667	8.928
1994.125	8.849	1997.625	8.957
1994.208334	8.796	1997.708334	8.925
1994.291667	8.872	1997.791667	8.895
1994.375	8.917	1997.875	8.858
1994.458334	8.916	1997.958334	8.851
1994.541667	8.934	1998.041667	8.845
1994.625	8.946	1998.125	8.805
1994.708334	8.940	1998.208334	8.798
1994.791667	8.901	1998.291667	8.847
1994.875	8.908	1998.375	8.840
1994.958334	8.881	1998.458334	8.841
1995.041667	8.846	1998.541667	8.847
1995.125	8.778	1998.625	8.897
1995.208334	8.780	1998.708334	8.929
1995.291667	8.781	1998.791667	8.896
1995.375	8.793	1998.875	8.846
1995.458334	8.825	1998.958334	8.800
1995.541667	8.885	1999.041667	8.733
1995.625	8.913	1999.125	8.792
1995.708334	8.895	1999.208334	8.761
1995.791667	8.903	1999.291667	8.751
1995.875	8.863	1999.375	8.777
1995.958334	8.873	1999.458334	8.798
1996.041667	8.818	1999.541667	8.830
1996.125	8.759	1999.625	8.892
1996.208334	8.751	1999.708334	8.865
1996.291667	8.764	1999.791667	8.855

Year	SrCa (mmol/mol)	Year	SrCa(mmol/mol)
1999.875	8.818	2003.375	8.869
1999.958334	8.753	2003.458334	8.934
2000.041667	8.737	2003.541667	8.965
2000.125	8.711	2003.625	8.916
2000.208334	8.726	2003.708334	8.823
2000.291667	8.751	2003.791667	8.758
2000.375	8.760	2003.875	8.766
2000.458334	8.823	2003.958334	8.824
2000.541667	8.849	2004.041667	8.851
2000.625	8.877	2004.125	8.862
2000.708334	8.856	2004.208334	8.890
2000.791667	8.780	2004.291667	8.893
2000.875	8.770	2004.375	8.909
2000.958334	8.784	2004.458334	8.879
2001.041667	8.770	2004.541667	8.829
2001.125	8.718	2004.625	8.817
2001.208334	8.762	2004.708334	8.732
2001.291667	8.748	2004.791667	8.709
2001.375	8.742	2004.875	8.753
2001.458334	8.836	2004.958334	8.791
2001.541667	8.877	2005.041667	8.824
2001.625	8.918	2005.125	8.868
2001.708334	8.866	2005.208334	8.920
2001.791667	8.793	2005.291667	8.883
2001.875	8.747	2005.375	8.829
2001.958334	8.725	2005.458334	8.783
2002.041667	8.704	2005.541667	8.769
2002.125	8.739	2005.625	8.777
2002.208334	8.811	2005.708334	8.721
2002.291667	8.807	2005.791667	8.784
2002.375	8.838	2005.875	8.866
2002.458334	8.869	2005.958334	8.887
2002.541667	8.893	2006.041667	8.953
2002.625	8.893		
2002.708334	8.902		
2002.791667	8.874		
2002.875	8.832		
2002.958334	8.802		
2003.041667	8.770		
2003.125	8.757		
2003.208334	8.831		
2003.291667	8.818		

References

Beck J.W., R.L. Edwards, E. Ito, F.W. Taylor, J. Recy, F. Rougerie, P. Joannot, and C. Henin, Sea-surface temperature from coral skeletal Sr/Ca ratios. *Science,* **257**, 64-647, 1992.

Beck, J.W., J. Recy, F. Taylor, R.L. Edwards, and G. Cabioch, Abrupt changes in early Holocene tropical sea surface temperature derived from coral records, Nature, 385, 705-707, 1997.

Cole, J.E. and R.G. Fairbanks (1993), The Southern Oscillation Recorded in the $\delta^{18}O$ of Corals from Tarawa Atoll, *Paleoceanography*, 5(5), 669-683.

Corrège, T., T. Delcroix, J. Récy, W. Beck, G. Cabioch, and F. Le Cornec, Evidence for stronger El Niño-Southern Oscillation (ENSO) events in a mid-Holocene massive coral, *Paleoceanography*, 15 (4), 465-470, 2000.

Corrège, T., Sea surface temperature and salinity reconstruction from coral geochemical tracers, *Palaeogeog., Palaeoclim., Palaeoecol.*, 232 408–428, 2006.

de Villiers, S., G.T. Shen, and B.K. Nelson, The Sr/Ca-temperature relationship in coralline aragonite: Influence of variability in (Sr/Ca)seawater and skeletal growth parameters. *Geochim. Cosmochim. Acta,* **58**, 197-208, 1994.

Gagan M.K., L.K. Ayliffe, J.W. Beck, J.E. Cole, E.R.M. Druffel, R.B. Dunbar, and D.P. Schrag, New views of tropical paleoclimates from corals, Quaternary Science Reviews, 19, 45-64, 2000.

Inoue, M., A. Suzuki, M. Nohara, K. Hibino, and H. Kawahata (2007), Empirical assessment of coral Sr/Ca and Mg/Ca ratios as climate proxies using colonies grown at different temperatures, *Geophys. Res. Lett.*, 34, L12611, doi: 10.1029/2007/GL029628.

Kilbourne, K.H., T.M. Quinn, F.W. Taylor, T. Delcroix, Y. Gouriou (2004a), El Niño-Southern Oscillation-related salinity variations recorded in the skeletal geochemistry of a *Porites* coral from Espiritu Santo, Vanuatu, *Paleoceanography*, 19, PA4002, doi: 10.1029/2004PA001033.

Kilbourne, K.H., Quinn, T.M., and Taylor, F.W., (2004b). A Coral Perspective on Climate in the Western Tropical Pacific Circa ~350 ka, *Paleoceanography*, 19, 1, doi: 10.1029/2002PA000868.

Paillard, D., L. Labeyrie, and P. Yiou (1996), Macintosh program performs time series analysis, *Eos Trans. AGU*, 77, 379.

Rayner N.A., D.E. Parker, E.B. Horton, C.K. Folland, L.V. Alexander, D.P. Rowell, E.C. Kent, and A. Kaplan (2003), Global analyses of SST, sea ice, and night marine air temperature since the late nineteenth century, *J. Geophys. Res.*, 108(D14), 4407, doi: 10.1029/2002JD002670.

Reynolds, R.W., N.A. Rayner, T.M. Smith, D.C. Stokes, and W. Wang (2002), An improved in situ and satellite SST analysis for climate, *J. Climate*, 15, 1609-1625.

Schrag, D.P. (1999), Rapid analysis of high-precision Sr/Ca ratios in corals and other marine carbonates, *Paleoceanography*, 14(2), 97-102.

Slutz, R. J., S. J. Lubker, J. D. Hiscox, S. D. Woodruff, R. L. Jenne, D. H. Joseph, P. M. Steuer, J. D. Elms. Comprehensive Ocean-Atmosphere Data Set: Release 1, number 268 pp., 1985.

Smith, S.V., R.W. Buddemeier, R.C. Redalje, and J.E. Houck, Strontium-calcium thermometry in coral skeletons, Science, 204, 404-407, 1979.

Taylor, F.W., T.M. Quinn, C.D. Gallup, and R.L. Edwards, (1994) Quaternary Plate convergence rates at the New Hebrides island arc from the chronostratigraphy of Bougainville Guyot (site 831), in Proceedings of the Ocean Drilling Program, Scientific Results, edited by H.G. Greene, J.-Y. Collot, L. B. Stokking et. al., 134, 47-57.

Timmermann, A., J. Oberhuber, A. Bacher, M. Esch, M. Latif, and E. Roeckner (1999), Increased El Niño frequency in a climate model forced by future greenhouse warming, *Nature*, 398, 694-696.

Trenberth, K.E. (1997), The Definition of El Niño, *Bull. Am. Meteorol. Soc.*, 78(12), 2771-2777.

Vincent D. G., (1994), The South Pacific convergence zone (SPCZ): A review. *Mon. Wea. Rev.*, **122**, 1949–1970

Xie and Arkin, (1997) Global Precipitation: A 17-year monthly analysis based on gauge observations, satellite estimates, and numerical model outputs, *Bull. Am. Meteorol. Soc.*, **78**, 2539-2558.

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